Montana Outdoors

September/October 2003

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PRIVATE LAND, PUBLIC WILDLIFE

Why conservation easements make sense

CWD STAYS AWAY

But for how long?

"G'MORNING, SIR"

The finer points of asking permission

Ulm Pishkun State Park

HUNTING BISON WITH GRAVITY

PARK PRONGHORN Ulm Pishkun State Park gets its name and fame from the nation's longest buffalo jump, but visitors will also find plenty of antelope and other wildlife at the prairie site. For more on the park's many residents, current and past, see our story on page 12. Photo by Ron Boggs.

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COVER PHOTO Montana's conservation easements provide hunting access as well as habitat for upland birds, waterfowl, big game, and nongame species. See page 28 to learn how they also help ranchers. Photo by Liz Lewis.

Bucket biology

The recent article on bucket biology (July/August, "Outlaw Introductions") reminded me of the time in 1958 when some other Montana fisheries biologists and I were rehabilitating a small lake along the highway just west of Thompson Falls. We were spending considerable time and money to ensure a thorough fish kill and remove the perch that had been illegally introduced to the lake. As work was proceeding, I struck up a conversation with a gentleman who was watching us. He expressed interest in the goings on, and then said, "Well, sonny, as soon as you folks have your fun and leave, we've got several buckets of perch we plan to put back in."

BERT CUSHING
Estes Park, Colorado

Wowed

Wow. As a brand-new subscriber to *Montana Outdoors,* I have just received and read my first issue. The layout, photography, and subject content of your May/June issue were absolutely wonderful. We are very pleased that we entered our subscription.

More than 30 years ago, while working in the North Dakota University system, I met a young professor of political science and have maintained my friendship with him since then. Every other year for the past 17 years, my family and I have been guests at his central Montana ranch. We have marveled each trip at the area's beauty, including the Judith Mountains and the valleys and foothills around Lewistown, Hilger, and Winifred. Equally important have been the wonderful Montanans we have met over the many years.

Our friends have represented the real beauty of Montana in an

extremely generous manner, and they have given my family the opportunity to witness many of the awe-inspiring things you feature in *Montana Outdoors.* Keep up the great work.

CY F. KRUSE
Outing, Minnesota

Butte buff

Every time I drive through north-central Montana, I'm awed by the sight of the three buttes in the Sweet Grass Hills. Are they on public or private land? Are they accessible? Can they be climbed?

TOM BRASSER
(E-mail, no address given)

EDITOR REPLIES: *Located 30 miles northeast of Shelby, most of the three largest buttes—West, Gold, and East—are on private land, though two can be hiked via public access. According to backpack outfitter Bill Cunningham, who wrote a detailed article on the Sweet Grass Hills in the May/June 2000 issue of* Montana Magazine *(800-654-1105), you can reach West Butte by heading east 17.5 miles from I-15 at Sunburst along Ninemile Road. When the road hits Coal Mine Road, turn right and park after about one-fifth of a mile. To the northeast, you'll see unfenced open range, which is state land leading to the butte's summit. To reach East Butte, you'll need to come in from the north from a BLM public access point on Black Jack Road. For details, get the "Sweet Grass Hills, Montana-Alberta" quadrangle map from the BLM's Havre field station (406-265-5891). Gold Butte has no public access.*

Aqualung, my friend

On page 37 of the July/August issue, in the portrait of the long-toed salamander, a sentence reads: "Like all amphibians, the long-toed salamander absorbs water and oxygen through its skin...." The implication is that amphibians breathe exclusively through their skin. This is not true. Amphibians can absorb oxygen through their skins, but most adult amphibians have lungs. Some specialized forms, like the lungless salamander group *Plethodontidae*, absorb oxygen via buccopharyngeal mucosa (mouth and throat linings), but even in this case they are bringing air in through their mouth. For a diagram on frog lungs, check out: http://users.rcn.com/jkimball.ma.ultranet/BiologyPages/V/VertebrateLungs.html

WALT TIMMERMAN
Herpetologist and FWP Parks Division Recreation Bureau Chief

Shipping and handling

In the May/June 2003 issue you offered copies of *A Field Guide to Montana Fishes* for $5 each. I'd like to buy two copies, but I need to know what you charge for shipping and handling.

In that same issue, I was saddened to read about whirling disease in the Missouri River. I used to take my children to a small tributary of the Missouri to watch the many large rainbows spawning in the spring. I hope someday to show the same to my grandchildren. I've traveled all over the world as a soldier, physician, and consultant, and there is no place like Montana. I hope you all can keep it that way.

JAMES J. SHEA, M.D.
Visalia, California

EDITOR REPLIES: *We should have included the price for postage and handling, which is $2.50, for a total of $7.50. The guide is a great gift for anyone who fishes in Montana. Copies are going fast, so readers who want one should call FWP headquarters at (406) 444-2535 and order their copy before the guides sell out.*

■ We welcome your comments, questions, and letters to the editor. We'll edit letters as needed for accuracy, style, and length. Mail your letter to: Montana Outdoors, P.O. Box 200701, Helena, MT 59620-0701. Or e-mail us at: tdickson@state.mt.us

TOM DICKSON

Duane bought the best camo he could find. Now he can't find it.

Q. *Were there ever any yaks along the Yaak River?*

A. Not the horned, shaggy, Asian kind. According to *Names on the Face of Montana*, by Roberta Carkeek Cheney, *yaak* is an Indian word meaning "arrow," which describes how the river "cuts across the bow of the Kootenai River in northwestern Montana and Canada."

Q. *I thought the Yellowstone River was the longest undammed river in the lower 48 states. Then I saw on the state highway map something called the Lower Yellowstone Diversion Dam, a few miles north of Glendive.*

A. That structure and several like it farther up the Yellowstone are dams, but they don't store water like the massive Libby or Yellowtail dams. Roughly 6 feet tall and made of rocks, diversion dams are submerged during high water. But when water is low, they can be seen diverting water from the Yellowstone into irrigation canals.

ILLUSTRATIONS BY JEFF TOLBERT

Q. *Do wolves really howl at the moon? Or are they just making noise when the moon happens to be out?*

A. According to Fred H. Harrington, a professor of animal behavior at Mount Saint Vincent University in Nova Scotia, howling is a social glue that keeps wolf packs together: The pack that howls together stays together. He says that wolves howl to find their companions and alert rival wolf packs to keep their distance.

As for howling at the moon, it's possible that wolves may be more active on moonlit nights, when they can see better, or maybe people hear them more often on such nights, because they are out walking around in the light of a full moon.

"But a wolf howling at the moon," says Harrington, "would be wasting its breath."

? *Wonder about some part of Montana's natural world? E-mail us at:tdickson@state.mt.us*

OUR POINT OF VIEW

JEFF HAGENER | *Director of Montana Fish, Wildlife & Parks*

This past summer, in mid-July, FWP game wardens were forced to kill a black bear near West Yellowstone. The bear had first become accustomed to eating garbage, dog food, and bird seed in the Bozeman area. We trapped and relocated it twice, but eventually it ended up eating handouts in a campground. Because it posed a real danger to people no matter where it went, we had no other choice.

This situation could have been avoided. Each year we have to kill several bears made dangerous by people who leave dog food and garbage outside or set out bird seed and corn for deer. Although this food is not intended for bears, the big omnivores can't pass it up. And soon they start viewing it as a regular food source. We can and do trap these bears and move them elsewhere. But too often they head to bird feeders or garbage in the new area. They become habituated to humans, and that's simply too dangerous for us to let continue.

Bears are the victims of increased development spreading from Montana's urban areas. They aren't the only species, either. In the Madison Valley, antelope numbers have begun to decline as rangeland has been subdivided into smaller and smaller units. Large areas that were once prime winter range, in the Madison Valley and throughout western Montana, are now fenced, blocking deer and elk from easily reaching the food they need.

Each year, more people are moving to where they can be surrounded by trout rivers, snowcapped mountains, lush green valleys, and wildlife. Development is most intense in the scenic intermountain foothills and along rivers and streams. These are also some of the state's most important wildlife habitats. We're finding that people don't realize that once they move into one of these ecosystems, they become a part of that ecosystem.

New fences block migration routes. New roads chop up habitat into smaller parcels that larger wildlife species can't use. Roaming cats kill songbirds, and off-leash dogs harass deer. Private fish ponds can introduce disease or nonnative fish species that can harm existing native fish in nearby streams and rivers.

Rural subdivisions are also increasingly becoming what we call "mortality sinks." The smells of garbage, bird feeders, dog food, and barbecues attract bears. The deer lured to corn feed in turn attract mountain lions. When a bear or lion wanders down a residential street, we have no alternative but to remove it, or kill it.

Within the limits of the law, people should be able to live where they want. We have no desire (or authority) to infringe on those property rights. But rural and suburban homeowners need to know that where they build and how they live have consequences to wildlife. And that in many cases, they can harm the very animals that attracted them to that scenic spot in the first place.

People also need to know that it's illegal to leave food or garbage out that attracts deer, bears, or other game animals.

How can people learn the best ways to avoid harming wildlife with their country living? If you're planning to build in a rural area, call your nearest FWP office and talk to the local wildlife manager. Or give us a call (406-444-2535) and ask for one of our "Living with Wildlife" brochures.

M. Jeff Hagener

Montana's stream access law is upheld

Anglers, kayakers, and rafters breathed a collective sigh of relief this spring when the U.S. Supreme Court announced it would not hear an appeal from landowners challenging Montana's stream access law.

The high court's decision on May 28 will let stand a Ninth Circuit Court decision upholding a federal district court's dismissal of a lawsuit challenging the stream access law. The plaintiffs had argued that the law deprived them of liberty and property without due process.

"This should end any further consritutional challenges to the stream access statutes," says Bob Lane, FWP legal counsel.

In 1984, the Montana Supreme Court found stream access to be a public right under the stare's constitution. The following year, the Montana legislature adopted statutes that said rivers and streams running through private property may be used by the public as long as people don't venture farther from the water than the ordinary high-water mark along the banks, indicating where the river or stream was at its most recent highest level in an average year.

In Montana, anglers and others may gain access to public waters from a public right-of-way via public lands, such as national forests and state fishing access sites, and from most bridge crossings. However, they may not enter posted lands bordering streams or cross private land to gain access to streams.

PAUL F. UPDIKE

Go ahead and fish, say state and federal courts about Montana streams.

2003-2004 Hunting Season Openers

JEFF HENRY/ROCHEJAUNE PICTURES

SEPTEMBER

1 Sage grouse, mountain grouse, sharptail, mourning dove, common snipe, partridge, wild turkey

6 Archery deer, elk, and antelope

15 Backcountry deer and elk, bighorn sheep, mountain goat, moose, black bear

OCTOBER

10 Deer and elk general

11 Pheasant

12 Antelope general

DECEMBER

1 Mountain lion

APRIL

12 Spring wild turkey

15 Spring black bear

Struggling grayling suffer from summer's record heat, drought

In midsummer, as southwestern Montana was baking in record heat, Jim Magee was cursing the endless lack of rain.

"More than anything, we need water," said the FWP grayling biologist.

The region has been enduring its fifth consecutive year of drought. On the Big Hole River, home to the last self-sustaining fluvial (river) grayling population in the contiguous United States, water temperatures were recorded as high as 78 degrees.

"That's really hard on grayling," said Magee.

GRAYLING ILLUSTRATION BY JOSEPH TOMELLERI

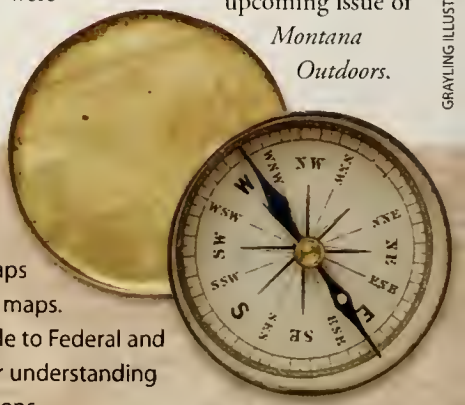
Portions of the Big Hole had to be closed to protect grayling and trout stressed by the heat.

Read about FWP's efforts to save the high-finned fish, which is on the verge of federal endangered species listing, in an upcoming issue of *Montana Outdoors*.

Find your way there

Montana offers more than 30 million acres of public land for hunting, camping, and other outdoors recreation. But where exactly is all that public property? And how do you know what you can and can't do to get access to it? Find out from FWP's two free brochures essential for anyone looking for public access. "The Directory of Montana Maps" lists Internet map sources and the phone numbers and addresses for obtaining county land ownership maps and state and federal land maps. "The Montana Access Guide to Federal and State Lands" is essential for understanding public land access regulations.

Get both by calling FWP at (406) 444-2602.



Explosive language

Many common and colorful figures of speech originate from early firearms. Among them:

"Lock, stock, and barrel"

This phrase, which means completely or to the greatest extent, is based on the three major parts of a muzzleloader rifle, the original firearm. The lock is the firing mechanism, the series of parts that creates a spark that ignites the gunpowder, firing the lead projectile. The barrel is the cylindrical metal tube through which the projectile travels. And the stock is the wooden portion that holds the barrel, lock, and trigger.

In the 18th century, when someone would order a muzzleloader rifle, and they wanted the entire gun and not just specific parts, they would order it "lock, stock, and barrel."

"Flash in the pan"

This means something that creates much initial interest and attention but lacks substance or staying power (remember the Spice Girls?).

The phrase comes from the very earliest muzzleloader rifles. These firearms had, as part of the lock mechanism, a tiny pan on which a pinch of gunpowder was placed. When the trigger was pulled, the hammer (containing a piece of flint) hit a metal part (the frizzen), creating a spark that ignited the powder in the pan. That in turn ignited, through the small "flash hole," the larger amount of gunpowder in the breech, firing the projectile.

Sometimes the rifle misfired so that the pan powder ignited, but nothing else. Thus, there was a "flash in the pan," but no actual firing of the rifle.

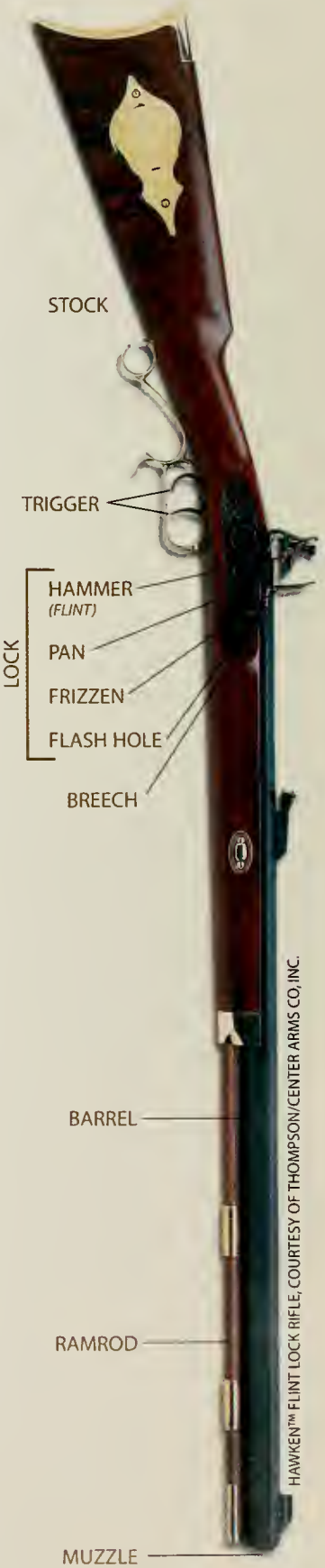
"Ramrod"

The ramrod is a pole used to jam gunpowder, wadding, and then the musket ball down the gun barrel. To ramrod something is to force passage or acceptance: *They ramrodded the bill through Congress.*

"Half-cocked"

To go off half-cocked means to speak or do something rashly, without adequate preparation or foresight. On a muzzleloader rifle, the cock, or hammer, could be pulled back with the thumb to two positions. The farthest back was called fully cocked and was for when the rifle was ready to fire.

The other, called half-cocked, was a preparatory position that supposedly wasn't able to fire and ignite the gunpowder. However, sometimes it would accidentally go off and catch the shooter unawares.



HAWKEN™ FLINT LOCK RIFLE, COURTESY OF THOMPSON/CENTER ARMS CO, INC.

Montana's on-line field guide

Learn about dozens of Montana fish, mammals, birds, insects, and other creatures at the Montana Field Guide page of the FWP website.

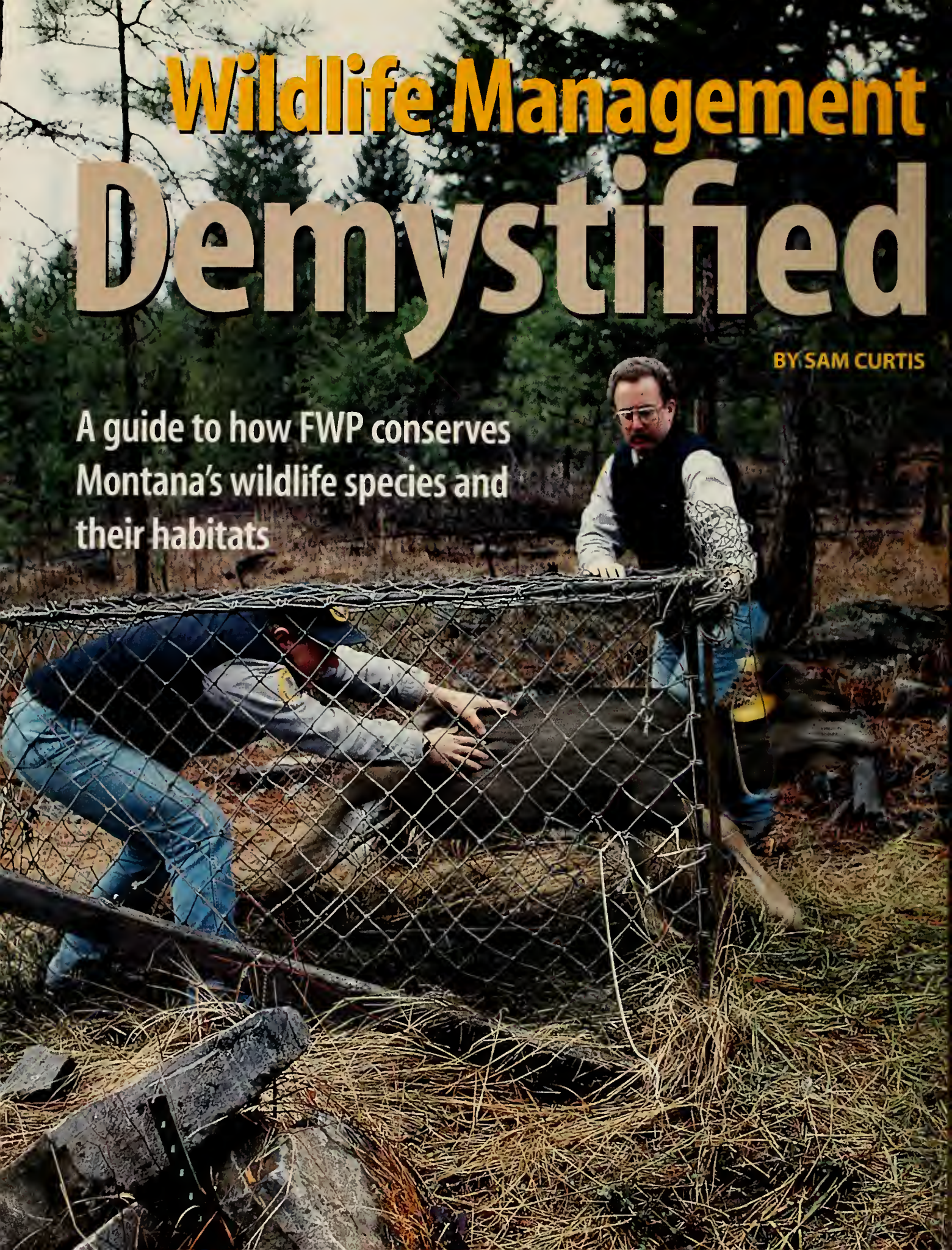
Produced and maintained by FWP and the Montana Natural Heritage Program, the site is the definitive place to learn about wildlife ranging from the mammoth moose to the tiny brassy minnow. Pages on each species provide official data on range, endangered status, habitat, and habits and include photographs and range maps. At the FWP site (fwp.state.mt.us), click "Wild Things" in the left column, then click the "Montana Field Guide" icon.

Montana Field Guide
Montana Field Guide > Mammals > Carnivores > Bears > Grizzly Bear
Grizzly Bear Ursus arctos
Global Rank: G4
State Rank: S1S2
Additional Media

Wildlife Management Demystified

BY SAM CURTIS

A guide to how FWP conserves Montana's wildlife species and their habitats



CATCH AND RELEASE After being fitted with a collar transmitter, a mule deer fawn is released from a live trap in northwestern Montana. Wildlife biologists will follow the deer to learn more about its movements and behavior. Right: Not all tracking is land-based. Sometimes biologists need to go airborne to count hard-to-find animals.

DONALDMJONES.COM

MIKE GURNETT/MONTANA FWP

Mark Duffy skims the Jet Ranger just above the trees in a canyon so narrow I figure I could reach out and touch the walls—if only I weren't clinging to my safety harness for dear life.

A rock cliff rises up in front of us. Duffy, a private pilot contracted by Montana FWP, drops the four-seat helicopter to the left in what begins as a free-fall but quickly becomes a roller-coaster ride. We fly up and over pine cones on the branches of tree tops on a ridge that suddenly falls away to the next canyon.

"There go four of them to the left," I hear Dave Pac, the front seat observer, say through my headset. Duffy puts the helicopter into one of his spin-circle dives that ties my insides into knots. I close my eyes to stop the landscape from whirling.

"I've got two fawns and two does over here," says Pac, an FWP research biologist who has been studying mule deer in the Bridger Mountains for more than 25 years. His voice holds a calm incongruous to the aerial acrobatics Mark Duffy is maneuvering us through with breathtaking skill.

Does this really have anything to do with wildlife management? I ask myself as I clutch the harness even more tightly.

It isn't just the idle question of an aerial 'fraidy cat. Though biologists and other wildlife professionals toss around the term casually, most people, even those keenly interested in wild animals, don't understand what "wildlife management" means.

Where did the idea get started? How does it work? Who does the wotk? And, as we drop into another controlled plunge to count and classify deer in the Bridgers, I have to ask myself, is it really even necessary?

WILDLIFE SQUANDERED

Modern wildlife management has its roots in the half-century of unrestrained commercial and "sport" hunting that decimated wildlife populations in this country from roughly 1850 to 1900. In the aftermath of that extravagant squandering of wild game, sportsmen and conservationists were shaken to realize that wildlife was not a limitless resource. They began to take action.

As early as 1872, the Territorial Legislature of Montana established its first closed

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DAVE SHARPE

JEFF HENRY/ROCHEJAUNE PICTURES

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COUNTING CRITTERS Biologists monitor wildlife to see if populations are increasing or decreasing from year to year. Counterclockwise, from near left: Among their many techniques for keeping track of animal numbers, biologists use spotting scopes to count snow geese and other waterfowl, gather harvest information from elk hunters, and track individual animals with radio receivers. Lower left: Wildlife managers use population data in complex equations to decide, for example, how many mountain goats can be killed by hunters in particular areas each fall.

season on big game. By 1900, the federal Lacey Act prohibited interstate traffic in illegally taken wild animals. The following year, Montana's Governor Richards appointed the first state game warden, marking the origin of what would eventually become the state's Department of Fish, Wildlife & Parks.

However, these and other early attempts to address dwindling wildlife populations were largely reactive, political, and unscientific. It wasn't until the 1933 publication of Aldo Leopold's book *Game Management* that, in Leopold's words, "the art of making the land produce sustained annual crops of wild game for recreational use" became the basic goal of wildlife management.

To achieve that goal, Leopold espoused the manipulation of both wildlife populations and wildlife habitats. Some people questioned whether this kind of hands-on management was necessary. Would not such manipulation disrupt the "balance of nature"? Leopold's reply, as he put it in a 1927 letter to the head of Glacier National Park, was that "the balance of nature in any strict sense has been upset long ago, and there is no such thing to maintain. The only oprion we have is to create a new balance objectively determined upon for each area in accordance with the intended use of that area."

This new balance, as it has evolved in the practice of modern wildlife management, strives to maintain wild game populations at or near the highest numbers possible without degrading the health of the animals, harming the habitats in which they live, or causing excessive depredation on landowners. To strike this balance, Montana FWP monitors wildlife populations, adjusts wildlife harvests, conducts research, protects and improves wildlife habitat, and provides access and information to hunters and wildlife watchers. It's not an exact science, but judging by the increase in wildlife numbers and hunting opportunities over the past 50 years, the state's wildlife management program appears to be working well. Here's how it works:

MONITOR WILDLIFE POPULATIONS

Wild game populations fluctuate in response to changing environmental factors, disease, and human manipulation in the form of hunting seasons and

Sam Curtis is a freelance writer living in Bozeman.

habitat alteration. But how much are populations going up or down? And why? Wildlife managers need to monitor wildlife numbers so they have a sense of how various species are faring from year to year. This allows them to formulate management policies that keep wildlife populations at appropriate levels.

Counting wildlife is not easy, as my helicopter ride suggests. But, historically, aerial counts of deer and elk concentrated on winter ranges have proven accurate for monitoring population trends, if not exact numbers.

"We're also always looking at other data to see if our aerial count information is getting verified by other checks and balances," says Ken Hamlin, a vereran deer and elk biologist in Bozeman. He and other biologists consider the results of ground counts, statewide harvest questionnaires, and check station information, along with landowner and hunter observations, when compiling population and classification figures.

Different wildlife species require different ways of monitoring. To keep tabs on bear numbers, for example, biologists attract the animals with bait surrounded by strands of barbed wire. By examining DNA in snagged hair samples, they can identify and keep track of individual bruins and estimate the area's popularion. Sage grouse, on the other hand, are counted when they gather at rradiriional spring mating grounds, and their sex and age classifications are determined by examining the wings of birds shot by hunters in the fall.

By monirоring game birds and animals to measure increases or decreases in their numbers, or changes in their sex and age ratios, wildlife managers can then adjust harvests through hunting regulations to keep populations from growing too large or dropping too low.

ADJUST HARVEST

Once they know how populations are doing from year to year, biologists determine wildlife management objectives for game animals living in a specific area. One goal is to ensure there are not too many or too few animals living in the available habitat.

"We conduct habitat condition and trend surveys to determine what the land can support and whether it's deteriorating or improving over time," says Glenn Erickson, who for years was chief of FWP's Wildlife Division Management Bureau.

BERT GILDART

BERT GILDART

JEFF HENRY/ROCHEJAUNE PICTURES

W. STEVE SHERMAN

JEFF HENRY/ROCHEJAUNE PICTURES

A REAL HANDFUL Though FWP biologists write reports and meet with hunters and landowners, they also work hands-on with wildlife. Clockwise from above right: a spreader is used to open a captured bighorn sheep's mouth so its teeth can be examined, Canada geese are rounded up so they can be fitted with leg bands, a biologist uses a bear trap to relocate a grizzly, biologists fit a deer with a collar transmitter, a duck with a harness transmitter is readied for release.

That information helps wildlife biologists decide whether to increase or decrease game harvests in specific areas. But habitat condition isn't the only factor they consider.

"Sometimes our objectives are biologically driven," Erickson says. "We may be trying to maintain some kind of ratio of bucks to does in order to enhance buck hunting opportunities."

Harvest objectives are also influenced by landowner tolerance for wildlife on their property. "We know that without the support of landowners, we can't maintain wildlife populations long-term," Erickson says. "So we try to deal with landowners and their problems, such as game damage to crops, and adjust our hunting seasons and regulations to try to alleviate and minimize that damage."

No matter whether biologists are trying to increase or decrease the size of a particular deer or elk herd, they have to account for a wide range of factors when setting hunting regulations to achieve certain harvest rates. As an example, Erickson points to recent mild falls and winters that have allowed many elk populations to grow. To keep elk numbers in check, managers have increased the number of antlerless elk licenses, started the season earlier to keep the animals off agricultural crops, and issued late permits so hunters can take advantage of winter weather that moves elk down from inaccessible areas.

> Without professional wildlife management, most of Montana's wild animal populations would likely survive, but they wouldn't be at levels most people would like to see.

"Setting hunting seasons and harvest objectives is not an exact science," Erickson says. "That's why we need research biologists to help us understand such things as population dynamics, habitat use, and the distribution and movements of these animals."

CONDUCT RESEARCH

Research is essential for understanding the many unknowns of wildlife management. Which hunting regulations produce more trophy elk? How many mountain lions are in various parts of the state? Do wolves reduce elk populations? Such are the questions that researchers aim to answer.

FWP research biologists study game animals ranging from pine martens to prairie grouse, but some of the most extensive research focuses on the state's most abundant and widely distributed wildlife: mule deer and white-tailed deer. Beginning in the mid-1970s, FWP conducted a series of landmark studies to gather information on deer ecology in the various environments deer occupy across the state. The goal: to better understand deer and deer populations so the species could be managed more effectively.

Since 1994, deer research biologist Carolyn Sime has been studying white-tailed deer in the coniferous mountain terrain of northwestern Montana. Her findings, like those of other researchers, could have practical management implications. For example, Sime's research shows that winter snow depth, duration, and water content—all of which affect deer movement and fawn survival—could be used to estimate the ratio of does to fawns in the spring, and, therefore, how hunting regulations might be adjusted the next fall.

"When making management decisions, we need to consider the specific environment deer live in rather than apply the same management principles to all deer everywhere," Sime says.

To make her point, Sime says her research shows that, unlike deer in agricultural areas, whitetails in forested northwestern Montana migrate, moving 20 to 30 miles from summer to winter range.

"When it snows and gets cold, they move to low elevations in search of mature trees with thick canopies," she says. "The trees catch snow, preventing it from piling on the ground and making it difficult for deer to move and feed. What this tells us is that how forests are managed on whitetail winter range in this region can have a huge effect on whitetail numbers."

PROTECT AND IMPROVE WILDLIFE HABITAT

Though revolutionary 50 years ago, the notion that healthy wildlife populations need healthy habitat is fundamental today to anyone who has seen ducks thrive in restored wetlands or elk disappear when forests become subdivisions. This basic connection between wildlife and their living environment is why protecting and improving wildlife habitat is an essential part of wildlife management.

To protect habitat from suburban development, FWP has purchased land to preserve vital and threatened wildlife winter ranges. The department also negotiates conservation easements with willing landowners (see story, page 28). Easements pay ranchers to keep their land as open space and employ wildlife-friendly agriculture practices such as rest-rotation grazing, which regulates the timing and duration of cattle grazing in separate pastures.

FWP biologists also improve wildlife habitat by restoring wetlands, conducting prescribed burns to rejuvenate prairies and pastures, and encouraging landowners to retain brushy fencerows where pheasants hang out. Habitat protection and improvement on forested land typically includes modifications to logging practices, such as maintaining a certain number of trees per acre and a specific forest canopy density in order to, for example, protect whitetail winter range.

PROVIDE ACCESS AND INFORMATION

Creating healthy habitat and wild animal populations is one challenge. Finding ways for people to get close to that wildlife is another one altogether.

"Access is critical to wildlife management," says John Ensign, FWP regional wildlife manager for southeastern Montana, where 76 percent of the land is privately owned. For example, in the mid-1970s hunters bought antelope hunting licenses but then found few places to hunt because private land was either closed

BLACKLEAF
WILDLIFE MANAGEMENT AREA
This Management Area was purchased by the Montana Fish, Wildlife and Parks to provide critical winter range for a variety of wildlife species. The Area is managed so as to attract, protect and perpetuate wildlife. Hunting of game species is an important component of our management activities.
This Area was purchased by sportsmen through sale of hunting licenses and by wildlife restoration funds derived from the sale of sporting arms and ammunition
MONTANA FISH, WILDLIFE AND PARKS COMMISSION
JOHN LAMBING

or open only for a fee.

"We started looking into ways to provide incentive to landowners to allow public hunting," says Ensign. "That's the origin of our Block Management Program. If we found several adjoining landowners, particularly adjacent to public land, willing to allow public hunting, we could have large 'blocks' of land open for hunters to hunt wild game that otherwise would have been inaccessible."

AN EYE ON THE FUTURE Wildlife biologists help FWP buy wildlife management areas and easements to protect wildlife habitat and provide hunting access now and in years to come. They also teach kids about hunting and biology basics.

The Block Management Program currently provides public hunting access to over 8.5 million acres of private and isolated public land throughout Montana. Through the program, FWP also helps individual landowners manage public hunting on their property under yearly, customized contracts.

Hunting access is also made available through most conservation easements, as well as the Upland Game Bird Habitat Enhancement Project, which requires that landowners who receive FWP funds for improving or protecting pheasant and other game bird habitat on their property allow public hunting there.

In addition, FWP's Access Montana Program establishes access corridors across private land so that hunters can reach more than 35 million acres of federal, state, and tribal lands.

Wildlife management can't work successfully without the support of an informed public. Montana has too few biologists for FWP to manage wildlife on its own. That's one reason the department places a high priority on explaining its management practices, proposals, and issues to hunters and other department stakeholders. FWP information officers in every region announce new and changing policies and regulations. Field biologists hold public meetings to explain proposed hunting limits and seasons and to listen to public comments. FWP sponsors hunter education classes for approximately 6,500 youngsters each year. And it provides

DONALDMJONES.COM

schools with educational materials to teach students about natural history and wildlife management.

"Our job is to publicize Montana's wildlife issues so we have a well-informed public helping us decide how wildlife should best be managed and helping us pass the legislation necessary to make that happen," says Ron Aasheim, who heads conservation education for the department.

Without professional wildlife management, most of Montana's wild animal populations would likely survive, but they wouldn't be at levels most people would like to see. Some species would decline, disappointing hunters and wildlife watchers. Others would overpopulate and invade ranchers' pastures and suburban backyards. Populations of others would bust some years and boom others.

But when properly managed, using the components explained here, wildlife populations can be increased, reduced, or maintained at levels that keep wildlife fans happy without causing intolerable problems for ranchers and others on whose land much of the state's wildlife lives. That's been the goal of wildlife managers for the past half-century, and it will continue to be so for the next one.

DOME ON THE RANGE Sweat lodge frames look like natural formations on the wind-whipped prairie at the top of Ulm Pishkun. Purifying ceremonies were held in these structures, marking the spiritual significance of a site long considered sacred to Plains Indians. Photo by Matt Long

For hundreds of years, bison perished at this sacred site, giving life to Great Plains Indian tribes

Where the Buffalo Fell

BY BRUCE AUCHLY

The gravel trail that leaves the Ulm Pishkun State Park visitor center disappears into a wind-blown prairie.

Even though it's early autumn, meadowlarks still sing, while grasshoppers flit among the tan- and dun-colored grasses. Sweeping down from the distant Rocky Mountain Front, the wind blows without pause. Within a few minutes the world of minivans, Happy Meals, and text messaging is left behind as the path begins to wind gradually uphill, toward the sacred ground. With each step it becomes easier and easier to imagine what it must have been like, a thousand years ago, to wait at the base of the cliff ahead. To wait for the buffalo to come tumbling down....

It's sunrise, and you and several other hunters are waiting here, spears in hand, stone skinning knives at the ready, listening for the sounds of buffalo.

On the rise above, out of sight, the rest of the band has been working, prodding, moving a herd of bison to just the right spot, 200 yards from the edge of the cliff.

As the ground at your feet begins to tremble, you know they are finally moving the great beasts forward. Up there on the high prairie, a swift "buffalo caller," disguised in a buffalo robe, has begun to run slowly ahead of the herd, leading the unsuspecting grazers to the deadly edge. He moves more quickly, and the buffalo pick up speed. Those that veer to the sides are scared back into the stampede by band members who appear suddenly from behind piles of stones, shouting and waving blankets.

You look up from the base of the pishkun to see the buffalo caller pause at the cliff's edge before leaping off—to a shelf just a few feet below, where he tucks himself under a sandstone ledge.

Behind him the lead animals have seen the edge and try to turn, but the momentum of hundreds in the stampeding herd, blinded by the sun ahead, carries them forward, over the edge, plunging in a frenzy of hooves, horns, dust, and fur onto the rocks 50 feet below.

There, you and the others rush forward with your spears and bows to finish the hunt. As those of this region have done for hundreds of years, you have come to this sacred site to ask the buffalo to give up their lives so that you and your people might continue on with yours....

Ulm Pishkun State Park exists to protect and interpret a place where, for hundreds of years, Plains Indians gathered herds of bison and then stampeded the animals off what is commonly called a buffalo jump.

Pishkun comes from a Blackfeet Indian word loosely translated as "deep blood kettle." At 1 mile long, this pishkun located a few miles west of the town of Ulm is considered one of the largest in North America.

An appreciation of the pishkun's significance starts in the park's impressive visitor center. A vividly furnished exhibit hall transports visitors back hundreds of years to a time when human life on the Great Plains revolved around the buffalo. The facility also houses a state-of-the-art classroom as well as a gift shop selling Native American crafts, wildlife books, and tribal music CDs.

Occasionally, such as during winter weekdays, a single visitor can be alone at the center and the park. But most days Ulm Pishkun is buzzing with school groups, tourists, and special events such as the annual Native American Cultural Fair. Though Ulm Pishkun State Park celebrates a historic site of death, it is today a place very much alive.

NEAL HAMSHER

SCIENTIFIC SIGNIFICANCE

In the early 1990s, Montana State University faculty and students set out to determine the archeological significance of the pishkun. Those field laboratories uncovered significant cultural deposits, which led to a better understanding of how Indians used the site to obtain bison for food, clothing, and shelter.

For example, scientists now believe that the bison harvest took place during the cooler months, from early fall through early spring. Plains Indians probably spent days slowly herding bison atop the bluff. Then, in a rush, they stampeded the wooly animals over the pishkun's precipice.

At the bottom of the cliff, other members of the group finished off the wounded animals with arrows and spears. Archeologists believe that the earliest hunters merely stripped the flesh off dead bison. But starting in roughly A.D. 500, as indicated by carbon-dated stone tools and fire pits, it appears the meat was processed into pemmican, a mixture of pulverized jerky and dried wild fruits held together by melted fat.

Scientists carbon-dated three projectile points found during the MSU dig. The oldest point dated to about A.D. 1000. Hundreds of other points were not dated but came from an archeological period stretching from A.D. 300 to 1300.

Many questions about the pishkun's use remain unanswered. For example, no one knows how many people took part in stampeding the buffalo off the cliff. One archeologist has said there had to be several dozen at least, and he wouldn't be surprised if hundreds participated.

One thing is certain, however. Pishkuns were essential for early Indian survival. Buffalo were simply too big and too fast to kill any other way.

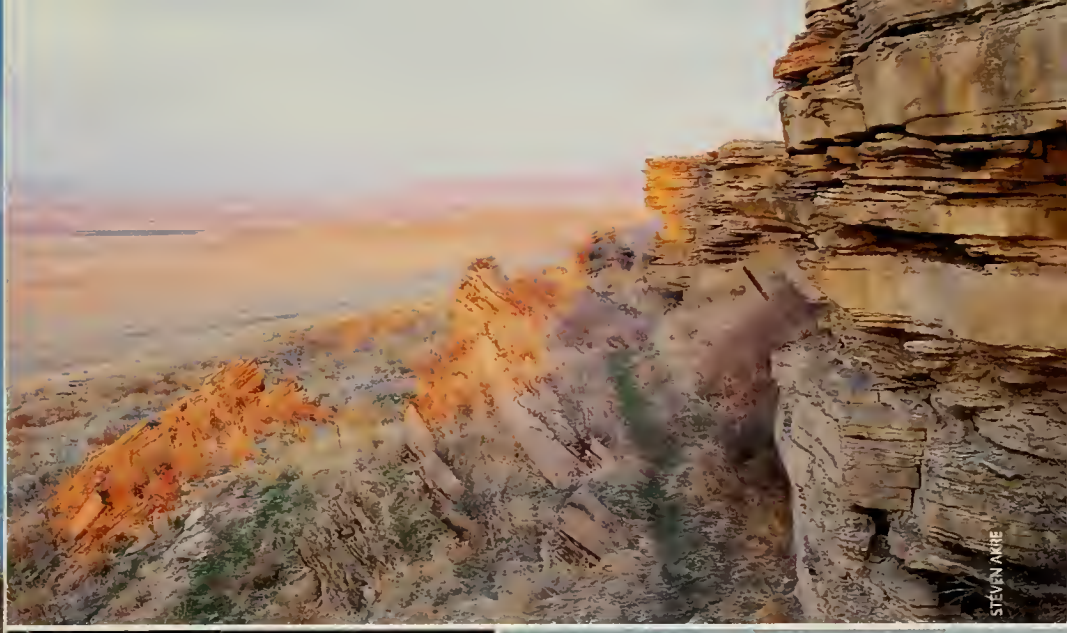
Yet driving bison off a cliff was difficult, dangerous, and unpredictable. Buffalo, which weigh up to one ton, likely crushed many hunters waiting at the cliff base.

Beginning in the early 1700s, when horses brought to the New World by Spanish conquistadors made their way to the Great Plains, Indians began to hunt bison more effectively from horseback. For more than a hundred years after the arrival of the horse, Ulm Pishkun and other buffalo jumps throughout the region fell into disuse.

Then, in the 1890s, Ulm Pishkun was quarried for sandstone, some of which ended up in Helena churches. In the mid-1900s, people began to see worth in the millions of ancient buffalo bones buried up to 15 feet deep at the pishkun's base. Between 1945 and 1957, up to 150 tons of phosphorus-rich bones were removed and used for fertilizer and to make munitions. The site, long

JEFF HENRY/ROCHEJAUNE PICTURES

BURIED TREASURE Archeological digs at Ulm Pishkun resemble this excavation at Wahkpa Chu'gn, near Havre, another monumental buffalo kill site. At Ulm Pishkun, scientists found bones 15 feet deep and stone tools dating back to A.D. 500.



STEVEN ARRE

JEFF HENRY / ARCHEJUNE PICTURES

CLIFF HANGER Before horses came to North America, Indians stampeded bison off Ulm Pishkun (above) to obtain food, bones, and skins. The animals were lured to the cliff edge by a "buffalo caller," who ran ahead of the herd and then jumped onto a short shelf a few feet below. Though live bison no longer roam the region, Ulm Pishkun State Park celebrates the history of the great animals and the people they supported, attracting students, scientists, and vacationing families (left).

considered holy by American Indians, was further desecrated by souvenir hunters digging for arrowheads.

An attempt to mine more bones in the late 1950s was foiled by Earl Monroe. The local rancher leased the state land and made it off limits to mining and scavenging. In the early 1970s, the lease was obtained by the Montana State Historical Society, which transferred it to Fish, Wildlife & Parks to designate as a state monument.

And there things sat for 20 years, a desolate patch of prairie that attracted little interest other than for an occasional arrowhead hunt or teenage kegger.

Fortunately, a few local visionaries began lobbying to clean up the site and turn it into something the state could be proud of. After MSU scientists confirmed the pishkun's archeological significance in the early 1990s, FWP began to expand and consolidate the park's land base. Through a series of land swaps and purchases, the park grew to its present size of 1,424 acres.

BULL IN THE LOBBY

Ulm Pishkun State Park entered a new era in 1999 with the completion of a 6,000-square-foot visitor center.

"The emphasis of the center is to tell the story of Ulm Pishkun from the Native American perspective," says Doug Monger, FWP State Parks Division administrator. "That's also why the park relies heavily on Native American speakers and interpreters."

In the building's lobby, visitors are welcomed by a full mounted bison bull, which they are invited to touch. The center's main feature is an interpretive hall furnished with murals, models, and artifacts that tell of the bison and the people whose lives depended on the plains grazer.

Upon entering the hall, it's springtime to the left and winter on the right. In all directions are bison, grazing. Ahead, where a cliff juts from the wall, visitors listen to recordings of Blackfeet Indians reading from the book *The Buffalo Jump*. A tepee, bison hides, and other displays provide a glimpse into what life here was like not that long ago.

The center's gift shop offers additional Indian and buffalo cultural and educational items. Beadwork, sweetgrass bundles, traditional Indian music, and history books are all for sale. Proceeds help support the park's interpretive displays.

Though certainly the park's starting point, the visitor center is in truth merely a speck on the sweeping landscape outside. A network of hiking trails allows visitors to experience that vastness of prairie and sky.

"Part of the park concept is to provide people an opportunity to walk through the prairie that existed back then," says park manager Connie Jacobs. "We had people stepping over the crews building the trails, they wanted to hike so bad."

Hiking offers an intimate way to understand and observe the landscape and pishkun, but those less inclined to walk can reach the top by vehicle. A gravel road winds from the visitor center up past a lively 5-acre prairie dog town to near the cliff. A paved walk makes a short loop past four sweat

LIZ LEWIS

lodge frames to a dirt path leading to the pishkun edge. There, visitors get a view of the sacred ground below, where bison were converted to food, clothing, and shelter. To the south is the Missouri River and behind it the Highwood and Little and Big Belt mountains. To the southwest is Square Butte, one of the most magnificent examples of these isolated landforms in Montana.

"WHERE ARE THE BISON?"

One thing visitors won't see at Ulm Pishkun is a live bison. Though the state park pays tribute to the shaggy prairie denizen, FWP officials say its focus is on interpreting the history of when millions of bison roamed the region, not providing a zoolike setting for people to see a few tame beasts.

"Where are the buffalo? That's the main question we get here," says Jacobs.

The short answer, which does not satisfy many visitors, is that FWP is not in the business of raising bison.

"It would be a huge undertaking," explains Dave Todd, the department's regional parks manager. "Having bison at the park would involve fencing, disease problems, and liability issues. For instance, how would we let people get close enough to see the animals without risking someone getting hurt? There's also the concern that to fence in a few bison as exhibits would demean the animals and diminish the park's significance."

Still, visitors want to see the genuine article. One solution may be for a local park support group to take responsibility for the lumbering ruminants. The All Nations Pishkun Association recently leased 920 acres of state land adjoining Ulm Pishkun State Park on the west.

In addition, association officials Brad Hamlett and Lyle Heavy Runner have personally leased 360 acres of state land north of the park.

"Our goals are to preserve the land, improve the grasses, and introduce a small herd of buffalo," says Hamlett.

Park and association officials say they continue to discuss ways live bison could become part of the Ulm Pishkun experience.

CHUCK HANEY

CRAIG STUDT LANDOWN

MUSEUM QUALITY Visitors entering Ulm Pishkun's state-of-the-art visitor center are greeted by a mounted bull bison (top) just asking to be touched. Near the interpretive hall, a circular gallery (above) identifies the dozen-plus Plains Indian tribes of the region. In the hall (left) visitors can enter a tepee, listen to Indian recordings, and touch leather dressings to better understand what it was like to live on the prairie hundreds of years ago.

LITTLE DOGS Atop the pishkun sits a prairie dog town, where these "petit chiens," as French explorers called them, whistle and bark as they scamper from hole to hole.

NEAL & MIMI MISHER

Local Group Supports Park

State parks rarely survive without local support, and Ulm Pishkun is no exception. The All Nations Pishkun Association was formed in 2001 to help raise funds and awareness for the park. Currently, the group consists of a 12-member board of directors and a board of advisors composed of Blackfeet elders from Canada and the United States. The association works with FWP on hosting special events, and it is discussing with park staff the possibility of housing live buffalo.

The group is also working to build a "friends-of" base to raise money and is actively applying for grants. The association recently received a state cultural grant to conduct a tepee-making class in cooperation with the Great Falls school district. Instructors from the Blackfeet Reservation oversaw the construction of several tepees now used at the park.

If its track record is any indication, the association will likely succeed in its goal of raising more funds and adding projects. The group was recently honored by the Museums Association of Montana as representative of the "significant and sustained contribution to the work of museums in the state of Montana." (Though Ulm Pishkun is officially a park, it is also considered a museum.)

EVENTS AND EDUCATION

The absence of living, breathing buffalo has not hurt Ulm Pishkun's attendance, however. Last year roughly 14,000 people—about half resident and half nonresident—visited the state park.

Many visitors come for the special events, such as this year's Native American art show, a concert by Blackfeet singer-songwriter Jack Gladstone, and a weekend of traditional hide tanning.

In September, as it has each year since 2000, the park holds an atlatl contest. Atlatl competitors come from throughout the West to see who can throw spears the most accurately using the 8,000-year-old flinging device.

The biggest event of the year, the Native American Cultural Fair, gets underway in late September. Held in conjunction with the Montana Tribal Tourism Alliance, the fair is a whirlwind of activity and demonstrations celebrating Native American culture, history, and traditional games.

Though the events attract crowds on weekends, it's the park's educational value that draws people day in and day out. Last year, says Jacobs, more than 1,600 kids from school, church, and youth groups visited the park to learn about American Indian culture and the significance of the buffalo. In addition to the education that goes on in the exhibit hall and during trips to the pishkun, a large and brightly lit classroom in the visitor center gets constant use from teachers and students. On most weekdays, visitors will see yellow school buses parked in front of the visitor center.

That's a welcome sight for folks like Karen Schaeffer. A Great Falls resident, member of the Turtle Mountain band of Chippewa-Cree, and park volunteer, she and her husband, Mark, hope Ulm Pishkun State Park will continue to attract visitors, especially more Native Americans. She says she wants others to enjoy the park and learn the rich history of the site and the people who used it for hundreds of years.

And she also wants others to experience the calming effects of an afternoon spent hiking around the prairie, with mountains in the distance and the only sound the wind blowing across the grass.

"It's so calming out there," Karen says. "If you could bottle that peace, everyone would want some."

Bruce Auchly is an FWP information officer at Great Falls.

Ulm Pishkun STATE PARK

R. D. (DICK) GARNEAU

Hours: Memorial Day through September 30: 9 a.m. to 5 p.m., seven days a week. Remainder of the year: 10 a.m. to 4 p.m., closed holidays.

Location: 10 miles south of Great Falls on I-15, at the Ulm exit, then 3.5 miles northwest on the county road.

Activities: Hiking, wildlife viewing, picnicking, and archeology. Interpretive displays, hands-on exhibits, gift shop, and special events.

Park information: (406) 866-2217, or on the Internet at fwp.state.mt.us/parks.

The Gentle Art of NEGOTIATING HUNTING ACCESS

It's a lot like asking someone on a first date, except for the part about purchasing livestock

BY ALAN CHARLES
ILLUSTRATIONS BY JEFF TOLBERT

"One time I had to buy a pig before I could get permission to hunt!"

Mac Minard, an acquaintance of mine, shook his head at the memory. "I drove down this farm lane and stopped beside the barn to ask permission from the farmer. The fellow was polite enough, but he shook his head and told me he saved the hunting privileges for his 'customers.' Remembering the sign on the gatepost that advertised butcher hogs for sale, I pointed to a pen of pigs beside the barn and asked him if he'd sell me a hog. 'Well, sure,' he replied. So then I looked him in the eye and said, 'Now, will you give me permission to hunt?'

"That place turned out to be one of my favorite grouse-hunting spots," continued Minard. Then, with a smile, he added, "And the pork wasn't half bad either."

That conversation a few years ago started me thinking about just how creative a hunter can be when it comes to convincing landowners to open their gates to allow some stranger to hunt on their land.

Sometimes, the quest is simple, requiring only a knock on the door and a simple exchange of information. But other times, the actual process may take weeks or months, involving artful negotiating, serious politicking, and sometimes even outright bargaining.

A word about landowners. Often they can be suspicious of hunters, and rightfully so. They may have had gates left open, litter strewn across their land, livestock and windmills shot at, and worse. One bad experience can sour a farming family on the whole hunting fraternity for years.

And it's worth bearing in mind that landowners have no obligation whatsoever to grant permission, no matter how charming or convincing a hunters' request, any more than a city-dweller has to allow some group of strangers to camp out in the backyard over the weekend.

The good new is that most landowners don't mind granting permission. They like hunters. Often they themselves hunt, and they appreciate the long-held tradition between landowners and other hunters.

But they want to be more than just asked. They want to be asked right.

So the point with asking permission is to put your best foot forward, to present yourself in the best light. Consider it like a job interview, but without the tie.

And just as savvy job-seekers will look for other opportunities at the interview if they don't qualify for the offered position, an adaptable hunter will know when to switch gears and try another approach. For example, many landowners don't allow hunting for certain species, but they do for others. The key is to look for clues, and then be ready to adjust.

Maybe all the orange posts or No Trespassing signs on a ranch reflect the owner's lack of enthusiasm for allowing public big game hunting but not necessarily bird hunting. Maybe locked gates on access roads indicate a concern about off-road travel but not other types. A self-confident hunter who notices such clues might open the discussion with a line like, "I saw the signs out front, but I wanted to see if you'd mind if I shot a few mallards on that pond over the hill."

Or, "I'd originally planned to ask you if I could drive up onto the upper ridge to look for elk, but I wonder if maybe instead I might get permission to walk those lower coulees if I parked at that locked gate below the house?"

As in all negotiations, the most important step is to first establish some initial dialogue. All too often, hunters never get to first base because they haven't developed a strategy, haven't sized up the situation and tailored an approach that will improve the odds of success.

Bob Carroll, a hunter from Butte, told me he pays attention to political signs tacked onto buildings and fence posts and is never shy about making oblique references to his own support for a particular candidate whose name might be featured on a landowner's property.

"Of course," Bob says, "I only do that if the signs are from recent campaigns."

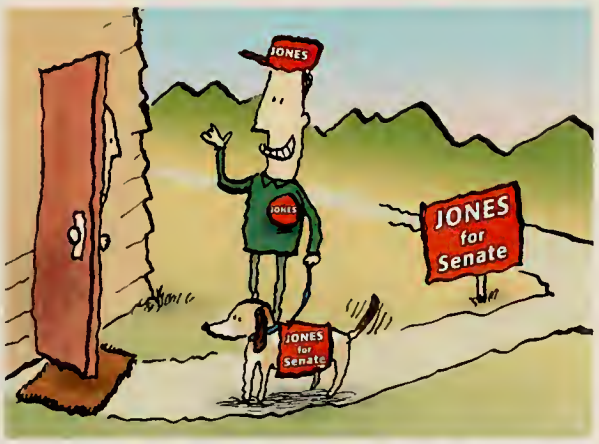
Bob also suggests that if you have a sore leg or hip, don't hide it; a little limp can work wonders. And if you were in the service—even if you just shuffled papers—maybe wear something that vaguely indicates your military past: "If they ask what you did, and it wasn't anything particularly heroic, you can always tell them it's still classified."

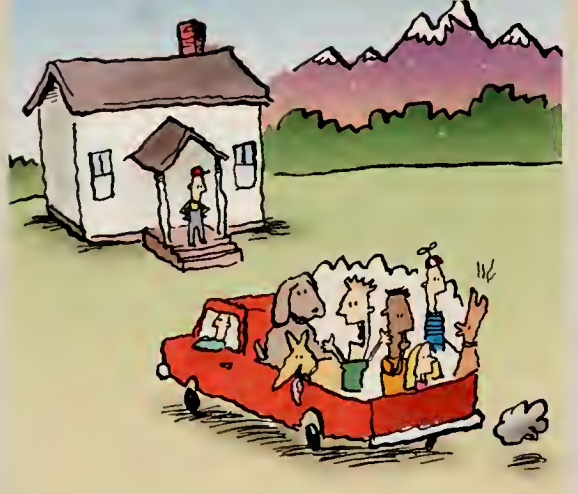
Several hunters have mentioned to me that they seem to do well gaining permission when they bring along a young hunter. It's good training for the youngster, who needs to learn the art of asking permission sooner or later. And it's tough for any landowner to turn down a freckle-faced girl with pigtails sticking out from under her orange cap, or a wide-eyed young boy eager to embark on his first hunt.

Puppies and old dogs can have a similar effect. Many landowners may have a soft spot for requests "to push the brush just to give this young pup a chance to learn a thing or two," or "to let this ol' gimpy fellow make another circle through the cover—maybe his last one."

Ensuring that the puppy gets a chance to wag his tail and nuzzle the rancher's boot adds a nice touch, as does teaching the old dog the proper time to peer out from the truck window and give a lonesome whimper.

A word of caution, however, about kids and dogs: Pulling into a farmyard with a truckload of barking, ill-behaved curs is not the best tactic. And having your son ask





permission while wearing his nose ring and black "Megadeth 2003 World Tour" t-shirt probably won't close the deal, either.

The initial step can decide the outcome, no doubt about it. One hunting colleague said a farmer once told him, "I hate it when city folks try to 'talk farming' in an effort to break the ice. They don't know a thing about farming, but they try anyway and throw in words like 'silage' and 'summer fallow' when they don't have a clue what the words mean."

On the other hand, if you do know something about working the land or livestock, you could use that insight to get a foot in the door. One time I stopped to ask a farmer, who was fueling his tractor in the field, how his crop of flax was harvested and how flax was processed, since I'd never been around that particular crop before. My curiosity and interest in his work gained me a five-minute lesson about local farming practices, and I was rewarded further when he invited me to hunt birds on his farm after asking me what I was doing in the area.

Perhaps that simply reinforces the value of approaching something obliquely, instead of head-on. Asking about a certain type of crop or grass, inquiring about a harvesting technique or livestock management system, citing an interest in the history of a place—these are all ways to begin a conversation and can often lead to a discovery of shared interests and knowledge.

Sometimes, an entirely unrelated action results in hunting access privileges.

"One day when I was returning from a deer hunting trip," says Dave Pavlicek, a hunter from central Montana, "I encountered a rancher having problems moving cattle down the county road, and I helped him get them to the new pasture. I still hunt deer and pheasants on his place these many years later."

Another time, Pavlicek was returning from work in Broadview and came across a farm truck near Buffalo with the hood up. "It was a rancher from Hilger returning to the ranch with a load of fence posts," Pavlicek says. "He had blown a radiator hose and lost all his coolant. I drove to Eddie's Corner, picked up a hose and some antifreeze, and helped him get the truck going again. He invited me to hunt on his ranch in the North Moccasins, and I've since had many good hunts there."

Sometimes, the relationship between hunter and landowner results from complete coincidence. One time, an acquaintance told me, a rancher was walking down Main Street in Miles City and noticed a truck with a bumper sticker from a national accordion players' group. The rancher, interested in the polka-related instruments, stopped and visited with the man in the vehicle. That conversation led to an invitation for the accordionist to come out to the ranch that fall to hunt deer and antelope. Twenty years later, the musician's grandson is hunting that same ranch, which is now run by the rancher's grandson. And it all came about because a bumper sticker identified a common interest.

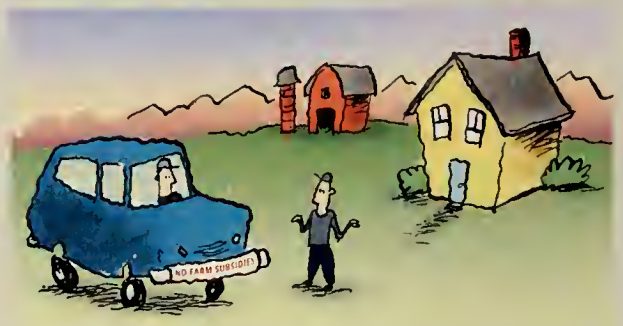
> And a "Go Grizzlies!" decal probably won't grease the rails in a yard festooned with Bobcats memorabilia.

That is something hunters need to think about before they stick decals and bumper stickers all over their vehicle. If the first impression a landowner gets about a person is an unfamiliar truck pulling into the farmyard festooned with slogans proclaiming support for organizations and philosophies at odds with the landowner's own ideology, then the chances of gaining access privileges are greatly diminished.

"Stop Farm Subsidies," for example, isn't a bumper sticker that will open many gates. And a "Go Grizzlies!" decal probably won't grease the rails in a yard festooned with Bobcats memorabilia.

On the other hand, an "I Bought the Grand Champion 4H Steer at the Fergus County Fair" sticker might tilt the odds in a hunter's favor. It sure couldn't hurt. And a John Deere cap blocks the sun just as well as a visor bearing a vegetarian message.

Asking permission isn't everyone's cup of tea. I know hunters who would rather get a root canal than have to walk up those front steps, hat in hand, and knock on the door.



But other hunters consider the quest for private land access simply part of the hunting experience itself. Obtaining permission is an element of the scouting process, as important to success as the search for animals and their sign. It's also a chance to make some new friends.

The quest for permission involves maps and phone calls, networking with other hunters, talking with wildlife biologists and game wardens, and then doing more networking—with school bus and mail drivers, taxidermists, and others who might lead you toward a receptive landowner.

The opportunities to develop innovative approaches and strategies are limited only by the hunter's imagination. For most situations, simply projecting a positive, confident, responsible, and respectful attitude while making a reasonable request is usually enough. For others…well, you might just have to buy yourself a pig.

Alan Charles coordinates relations between landowners and hunters for Montana FWP.

SPECIAL REPORT

So Far, So Good

More than 1,000 Montana deer and elk tested negative for chronic wasting disease. Does that mean we can stop worrying?

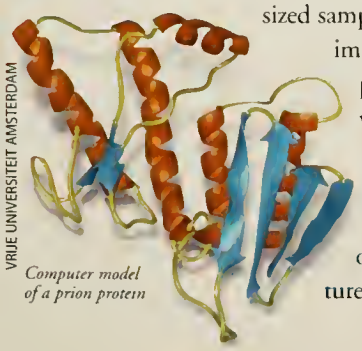
BY TOM DICKSON

SAM CURTIS

GRISLY SCIENCE FWP laboratory technician Jen Southers removes brain tissue at the FWP wildlife research laboratory. Samples from 1,013 deer and elk were sent to the National Veterinary Services Laboratory, where they tested negative.

At the U.S. Department of Agriculture National Veterinary Services Laboratory (NVSL) in Ames, Iowa, packages arrive weekly from state conservation agencies throughout the United States. The boxes contain portions of deer and elk brain tissue, placed there by agency staff who hope the veterinary pathologists at the Ames lab don't find evidence of chronic wasting disease (CWD).

Dr. Art Davis, chief of the NVSL pathology biology laboratory, says the process for detecting CWD begins when pathologists fix the brain samples in a formula. They then trim the samples into small pieces, which are placed in a dehydrator. The dried quarter-sized samples are imbedded in paraffin wax and placed in a microtome, sort of a miniature deli meat slicer that shaves the brain samples into paper-thin pieces. Each sample is then mounted on a slide and stained with a special dye. Under a standard lighted microscope, similar to the kind used in high school biology classes, pathologists look for signs of CWD.



VRIJE UNIVERSITEIT AMSTERDAM

Computer model of a prion protein

A reddish pink coloration on the tissue, says Davis, indicates the presence of abnormal prions, the infectious proteins that cause the disease.

Fortunately for Montana's deer and elk populations, no pink showed up on any of the 1,013 deer and elk brain samples tested this past spring by the NVSL. The deadly deer and elk disease that has slowly begun spreading across the country has not reached wild herds in the Treasure State.

At least, not yet. Chronic wasting disease has been detected nearby in Wyoming, South Dakota, Utah, Colorado, and Saskatchewan, among other states and provinces.

"What the experts are telling me is that it's not a matter of *if* it gets here, but *when* it gets here," says Jeff Hagener, FWP director.

FATAL TO DEER AND ELK

CWD is a rare though always fatal neurological disease found in a small percentage of wild deer and elk in a few areas of North America. It belongs to a family of diseases called transmissible spongiform encephalopathies (TSEs). Other TSEs include scrapie in domestic sheep, "mad cow disease" in cattle, and the extremely rare Creutzfeldt-Jakob disease in humans.

Though similar to these diseases, there is no evidence that CWD is transferable to humans, say public health officials with the U.S. Centers for Disease Control. They point out that even though the related disease scrapie has existed in sheep for at least 300 years, there has never been a case of scrapie reported in a human being. That's true even among people who work with

sheep and the millions of people who eat lamb and mutton each year. Nevertheless, scientists continue to study the disease to see if it could pose any risk to human health.

CWD attacks the brains of infected deer and elk, causing the animals to grow thin, stagger, and eventually die. Testing is done by sampling part of the brain, tonsils, or lymph nodes from the heads of dead animals.

"There is no practical way to test live animals for CWD," says Keith Aune, supervisor of the FWP wildlife research laboratory in Bozeman, "and so far no cure has been found for the disease."

Though CWD has not been found in Montana's wild deer or elk populations, in 1999 it was diagnosed in nine captive elk on an alternative livestock facility (game farm) near Philipsburg. All the animals there were destroyed and the facility was quarantined. Montana voters passed an initiative the following year that prohibits transfer of existing game farm licenses, ends new licensing, and forbids shooting captive elk. Still, roughly 75 of the facilities still exist, selling elk for meat, antlers, and breeding.

MYSTERIOUS ORIGINS

No one is sure where CWD came from. It first showed up in 1967 in northeastern Colorado and spread slowly through that state and into southeastern Wyoming. Since then, the disease has been detected in wild herds or game farms in twelve states and two provinces. Though scientists aren't sure how CWD is transmitted, wildlife officials suspect the disease has spread by the trade or sale of captive elk among facilities in different states and provinces. Studies have traced outbreaks to the movements of captive elk, many of which have been traced back to alternative livestock facilities in the endemic area of Colorado.

CWD gained widespread national attention in 2002 when it was detected in wild white-tailed deer in Wisconsin, the first time it was found east of the Mississippi River.

Since then Wisconsin has tested more than 41,000 deer. Most of the 207 that tested positive came from an isolated area in the state's southeast corner, where sharpshooters have begun killing deer to reduce the population and the chances that the disease will spread.

JEFF HENRY/ROCHEJAUNE PICTURES

STILL STANDING Though game farms still exist, a voter initiative ended canned hunts, new licenses, and the transfer of existing licenses.

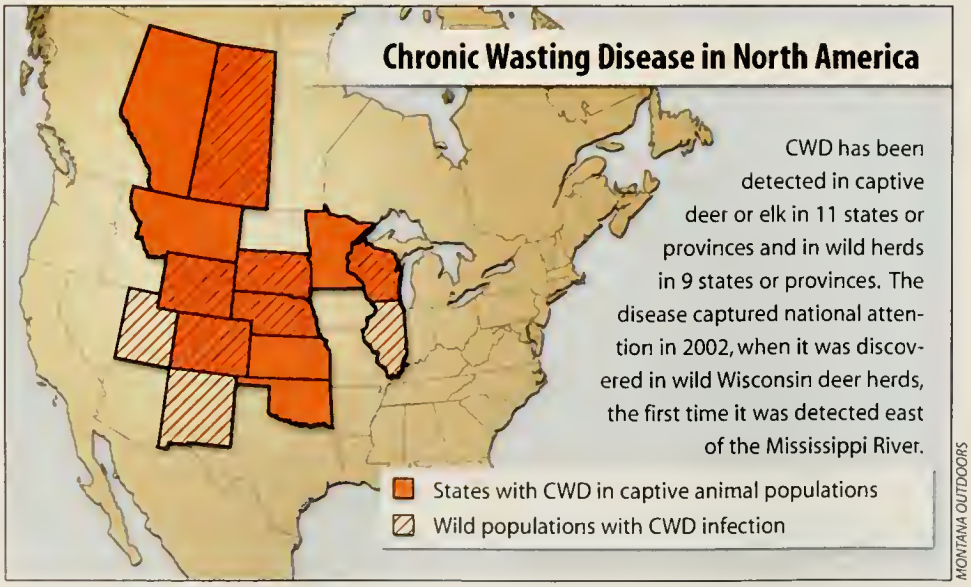
WHY SO WORRISOME

Like those in Wisconsin and other states and provinces, Montana wildlife officials dread the possibility of CWD infecting deer or elk herds. Among their concerns:

- reduction in deer and elk numbers
- loss of hunting and wildlife watching opportunities
- reduction in management effectiveness (if hunters will not hunt due to health concerns, the agency loses its most effective wildlife management tool and the funding that comes from license sales)
- unnecessary waste of meat causing sanitation problems and illegal wanton waste
- possible effects to human health (though this has not yet been proved).

Though the natural spread of CWD is slow, over time it can depress wildlife numbers. In Colorado, which has had the disease for 35 years, up to 30 percent of the deer population is infected in some areas.

"We've found in recent years that any infection rate of over 15 percent can cause a population drop," says Aune.


Chronic Wasting Disease in North America
CWD has been detected in captive deer or elk in 11 states or provinces and in wild herds in 9 states or provinces. The disease captured national attention in 2002, when it was discovered in wild Wisconsin deer herds, the first time it was detected east of the Mississippi River.
States with CWD in captive animal populations
Wild populations with CWD infection

MONTANA OUTDOORS

MONTANA'S RESPONSE

FWP is Montana's lead agency for managing the CWD issue. The department provides information to the public, tests wild animals, and adjusts policy as necessary. It also works closely with other state health and livestock agencies.

"We're anticipating and planning for the disease," says Aune. "There's nothing to suggest that it won't cross the border."

Montana first began monitoring deer and elk for CWD in 1996, following reports of

Tom Dickson is editor of Montana Outdoors.

the disease in Wyoming. In 1998, FWP and the Montana Department of Livestock increased scientific surveillance of both wild and captive deer and elk in Montana. Roughly 2,300 captive deer and elk from livestock facilities were tested between 1996 and 2001. None tested positive for CWD except those in the facility near Philipsburg.

So far, FWP has tested roughly 2,700 wild deer and elk, mostly in the high-risk areas near Philipsburg and along the state's eastern borders.

"We'd expect to find CWD first in the border areas, where it would more likely enter from neighboring states," says Aune.

However, just because no wild deer or elk samples have tested positive doesn't mean FWP officials can relax. They continue to test any emaciated or sick-looking deer or elk. And this fall, the department will collect additional deer and elk tissue samples from animals harvested by hunters, focusing most on high-risk border areas.

FWP is also developing statewide management plans that identify ways to detect, contain, and prevent the spread of CWD.

"Like with any wildlife disease," says Aune, "if you can detect it early, you have a good chance of taking aggressive action and keeping it contained. But if we wait until we have two, three, or more percent infection in our herds, then there's nothing we can do."

How would FWP respond to a CWD outbreak? Aune says the first step would be to inform the public, including nonresident hunters, and all appropriate federal, state, and local agencies of when and where the infected animals were found. The department would then convene public meetings in affected areas to discuss findings and possible management options.

"There really aren't a lot of options," says Aune. "We can't just go give infected elk and deer a shot and cure them."

Montana could follow the example of Wyoming and simply monitor the deer and elk populations. Or it could respond aggressively like Wisconsin, which aims to eradicate deer in areas where the disease has been identified.

"We can't say now for certain what we'll do if CWD gets here," says Hagener. "But one thing's for sure: We're extremely serious about being proactive and being prepared to tackle this issue head on."

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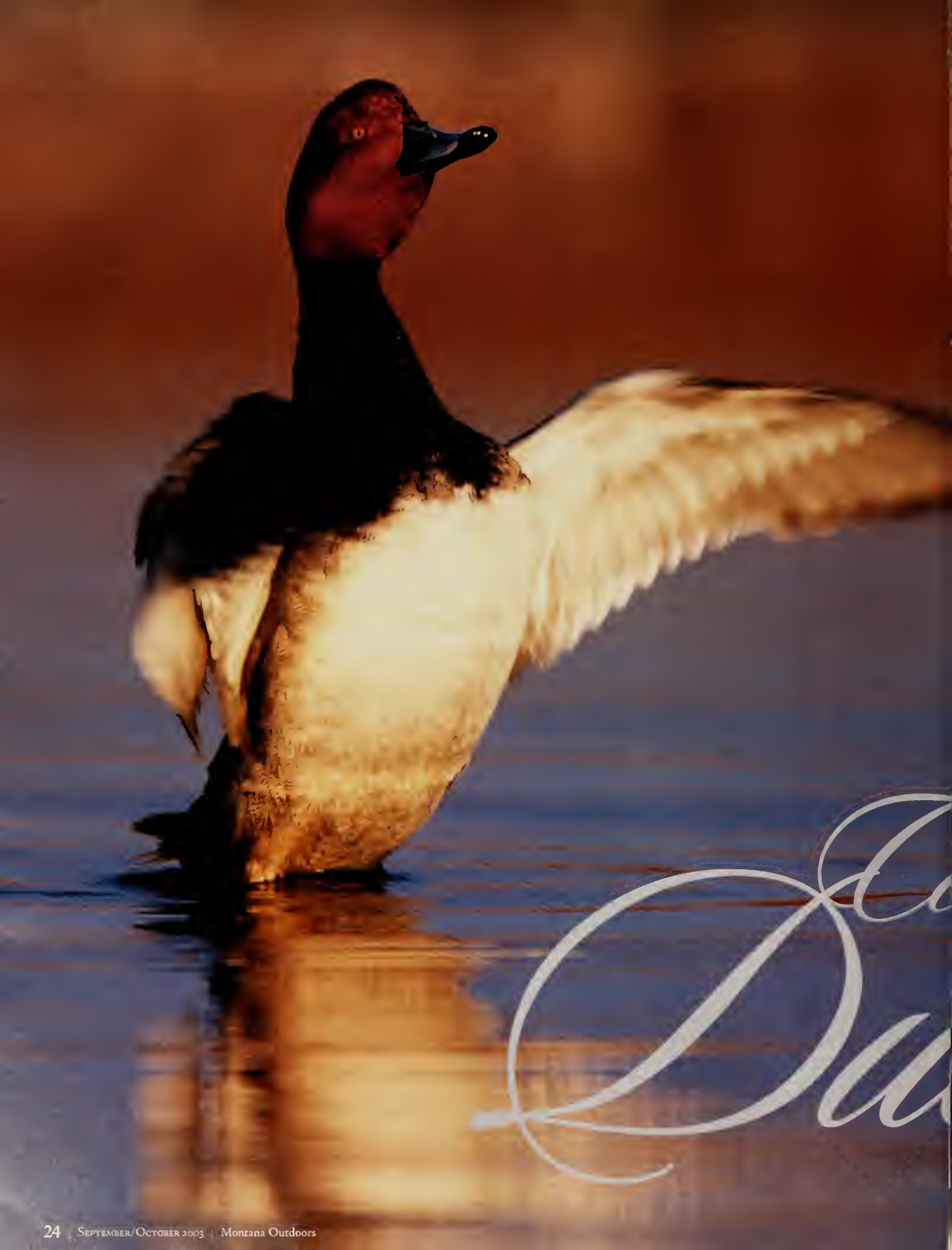
JUST IN CASE

Though CWD has not been found in Montana, hunters who want to be extra safe can follow normal precautions applicable to all game animals:

- Don't shoot or get near any strange-acting wildlife. If you see one, contact the nearest FWP office.
- Use latex or rubber gloves when field dressing an animal.
- Wash hands, knives, and saws thoroughly after field dressing.
- Bone out all meat, and don't saw bones.
- Avoid handling brain and spinal tissues.

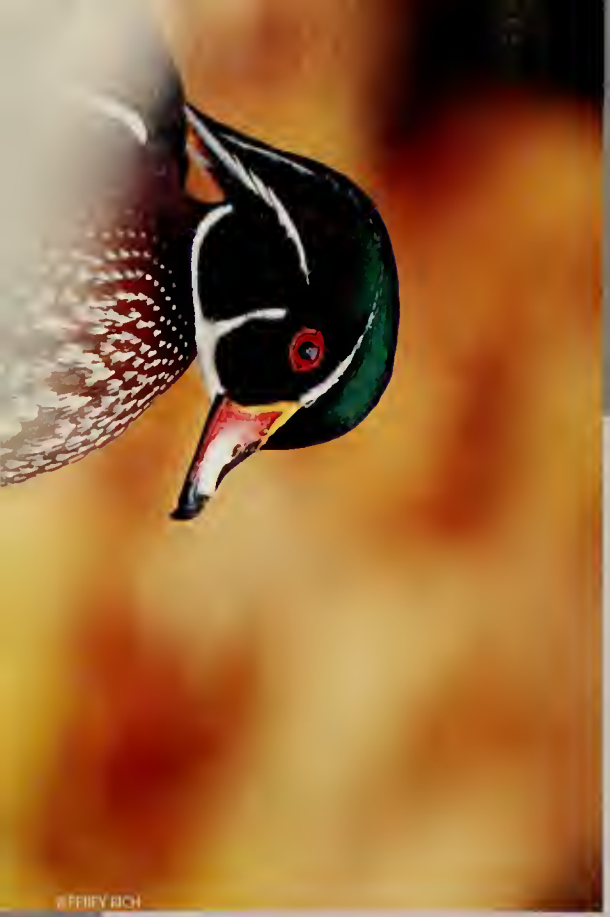
For more information, call the Montana Department of Public Health and Human Services, (406) 444-0273, or go on-line at cwd-info.org or fwp.state.mt.us (click on "Hunting" and then click "Know Before You Go").



SHOVELERS BY W. STEVE SHERMAN

A pictorial tribute to these marvelously feathered bundles of beauty, grace, and speed

CINNAMON TEAL BY STEVEN BINAM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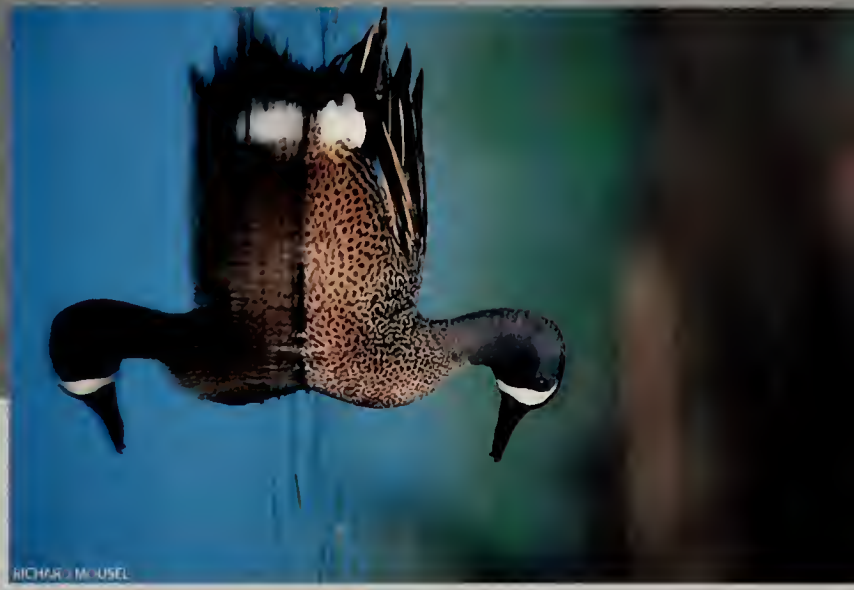
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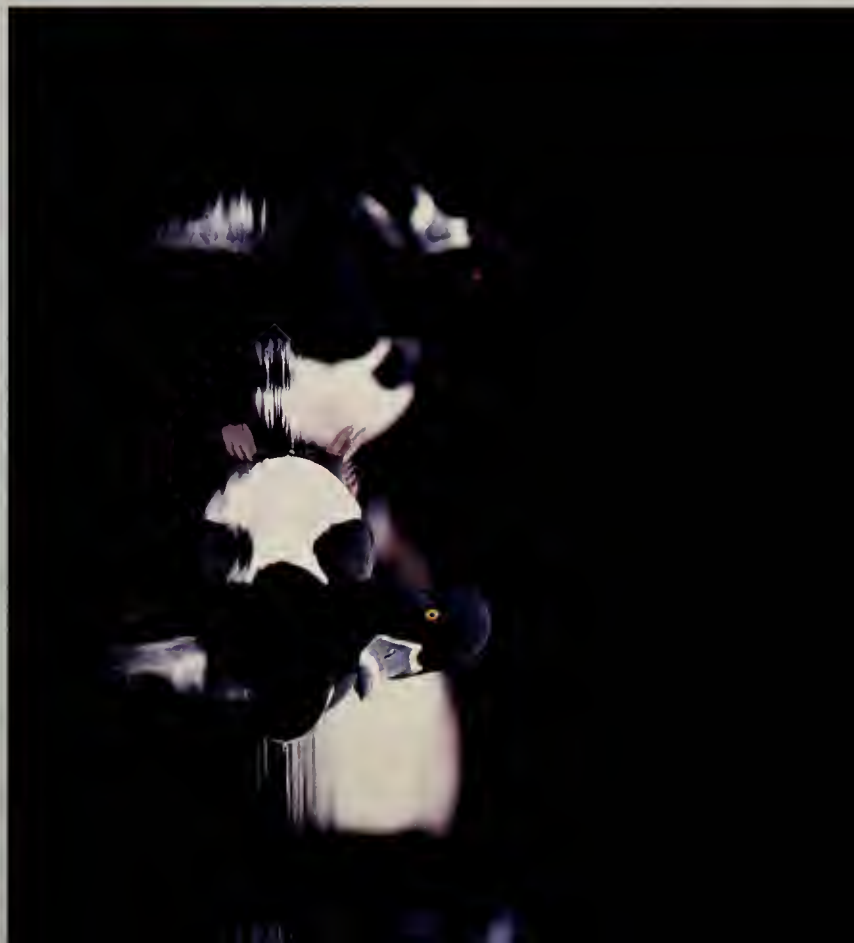


RODNEY SCHLECHT

CLOCKWISE FROM UPPER LEFT: BLUE-WINGED TEAL, RINGNECKS, PINTAIL (HEN), MALLARD, PINTAILS, WOOD DUCK, AND SHOVELER.

Their Land, Our Wi

How conservation easements benefit the public's wildlife while maintaining private ranching traditions

By Henry Gould

JON EBELT

COWS ON THE GO As part of their conservation easement with FWP, Lisa and Mike Bay move their cattle from one pasture to another throughout the summer. The rotational grazing system invigorates forage and improves habitat for elk, deer, and other wildlife species.

Mike and Lisa Bay run several hundred head of cattle on 3,800 acres in Lewis and Clark County. During the summer, their cows graze in fenced pastures on designated parts of the ranch and are moved periodically to avoid overgrazing the grass and forbs. Where the cows aren't grazing, deer, elk, and ground-nesting birds feed and raise their young. Each year, some pastures are not grazed at all, providing winter forage for wildlife, including roughly 900 elk last year, Mike says.

Since 1994, the Bays have negotiated this wildlife-friendly system, called rest-rotation grazing, with Montana FWP as part of a conservation easement. In exchange for a one-time payment by the department, the couple gave up their rights to subdivide the ranch and agreed to conserve the land for wildlife by using specified agricultural practices. The partnership between the Bays and FWP has conserved an important chunk of wildlife-rich agricultural land in a state where, according to a study by American Farmlands Trust, 5 million acres of prime ranchland is at risk of being subdivided by 2020.

Conservation easements are a relatively new tool used by the department to protect wildlife habitat in the face of growing population growth and suburban sprawl. Since 1994, FWP has either negotiated or received as donations 37 easements, mostly for wildlife purposes, covering about 320,000 acres. Under these voluntary legal agreements, which are custom-made with individual landowners, the department typically pays 40 to 45 percent of the value of the property. In return, the landowner agrees to keep the land in traditional agricultural use, employ agricultural practices beneficial to wildlife, forgo all but limited development, and, in most cases, allow public access for hunting. The rancher continues to own the land, which can be sold or passed on to heirs. But the title carries the agreed-upon terms of the easement, which are negotiated to remain with the land "in perpetuity," a legal term for "forever."

The easements were created with the goal

GARY LEPPART

life

of conserving two things highly valued in Montana: wildlife habitat and family ranches. Payment for the conservation easement, in the Bays' case, allowed Mike to purchase a portion of the ranch from his mother and become the fourth generation of his family to work the land. Other ranchers use easement money to buy new equipment, reduce debts, or fund retirement. For its part of the partnership, FWP has been able to preserve wildlife habitat to ensure healthy game and nongame wildlife populations far into the future.

"As development pressure continues to grow across the state," says Ron Marcoux, senior lands program manager for the Rocky Mountain Elk Foundation, "conservation easements are becoming more and more important for protecting a wide range of wildlife habitats."

SPARTASPHOTO.COM

PUBLIC-PRIVATE AGREEMENT Because FWP uses hunters' license dollars to buy conservation easements, landowners must, in most cases, allow public hunting on their easements.

CRITICAL HABITAT LOST

Easements haven't always been necessary. In the early years of statehood, Montana appeared to have unlimited wildlife habitat on public and private land. But over the past half-century or so, elk and deer winter range has been lost to subdivisions, and sagebrush-grasslands and prairie pothole wetlands have been converted to crop fields.

As early as 1940, FWP had bought land to protect wildlife habitat using federal funds under the Pittman-Robertson Act. Biologists and conservationists promoted these "fee title acquisitions" (the outright purchase of land) because the resulting wildlife management areas could be completely dedicated to enhancing wildlife habitat, increasing wildlife numbers, and providing public access.

But public land acquisition didn't sit well with some Montanans. FWP efforts to buy more wildlife habitat were criticized by lawmakers who thought the department should stick to season-setting and stay out of land ownership.

The debate intensified in the mid-1980s, as suburban sprawl increased, eating up land where elk once grazed and pheasants crowed. Hunting and conservation groups urged the Montana legislature to establish a funding source to help FWP protect critical habitats threatened by development. Because public demand for habitat protection was strong, yet fee title acquisitions were increasingly opposed by lawmakers, attention during the 1987 legislative session turned to conservation easements.

At first, both conservation and ranching groups questioned the easement option. Habitat advocates, for example, believed easements wouldn't do enough for wildlife. "Many sportsmen and conservationists questioned whether we'd be getting our money's worth," says Steve Knapp, FWP Wildlife Habitat Bureau chief. "They saw fee title as the best way to go."

On the other hand were those who thought easements went too far, contending that the legal agreements would mix FWP into affairs where the agency didn't belong.

"A portion of the ranching community," Knapp continues, "didn't want government involved in buying, or having partial control over, any private land."

Still, there was no argument that habitat was fast disappearing. So the 1987 legislature passed a bill that sets aside roughly $3 million per year in hunting license revenue to protect important or threatened wildlife lands, using a range of wildlife management tools including fee title, conservation easements, and leases. HB 526, which fostered the program now known as Habitat Montana, was considered a landmark in Montana conservation law. But to placate the bill's opponents, the legislature also required that FWP attempt to buy conservation easements first before buying any more land.

Just because FWP had been granted legal authority to buy conservation easements didn't mean acquiring them would be easy. Both FWP and landowners were unfamiliar with how easements worked, what a fair price would be, and what conservation conditions should be set. And many farmers and ranchers, though comfortable selling their land outright to the department, were less so when it came to entering into complex legal land agreements.

The department tried to negotiate conservation easements from the start, says Knapp, "but the owners we were dealing with at the time wanted to sell their land. It takes two to tango, and for several years there was just one partner on the dance floor."

Unable to acquire conservation easements, yet still legally authorized to buy land outright to protect habitat, the agency continued to use Habitat Montana money to purchase fee titles. That upset lawmakers opposed to new state land ownership. In 1993, a disgruntled legislative committee refused to release funds for any additional FWP land acquisitions.

"The committee made it clear they were unhappy our focus was still on fee title," says Pat Graham, FWP director at the time. "So I made a commitment we would pursue easements over fee title whenever feasible."

FOCUS ON HABITAT

The following year, FWP signed its first conservation easement, 40,000 acres of Brewer Ranch rangeland in southeastern Montana. The Brewer easement was a mix of habitat types supporting cattle and also sage grouse, sharp-tailed grouse,

Henry Gould is a freelance writer living in Gallatin Gateway.

antelope, mule deer, and prairie songbirds. Knapp says it was the Brewer easement that paved the way for all the easements since: "That was the first one, and it was a signal to the ag community that one of their own had enough faith in FWP to enter into this type of agreement."

One of the challenges when buying conservation easements is deciding which habitats to protect. When they set goals for Habitat Montana, FWP Commission members focused on the three habitat types most vulnerable to subdivision development and intense agricultural practices: riparian (riverside) areas, intermountain grasslands, and sagebrush-grasslands.

"From the beginning, [the commission] tried to avoid a species-specific approach to conservation easements," says Don Childress, administrator of FWP's Wildlife Division. "They understood that if we took care of the three major habitat types, then all species—game and nongame—would benefit."

After local wildlife biologists identify these three habitat types in their area, and various threats that exist, they approach landowners who have expressed interest in negotiating an easement. As more agricultural land has been added to the conservation easement roster, the program's positive reputation has spread, generating more interest among ranchers and farmers. Currently, demand to sell easements exceeds the money available to buy them.

"We've gotten to the point where we have to turn people down," Knapp says.

The conservation-minded, he adds, are given preference over those just in it for the cash: "If a landowner is only interested in the money, it usually doesn't work. They've got to be committed to the habitat."

KITCHEN TABLE NEGOTIATIONS

Negotiating a conservation easement requires far more than signing legal documents. FWP biologists and land agents spend hours on the phone or at the kitchen table with a potential seller discussing various options. The FWP staff need to understand how that particular ranch or farm functions and what the landowner's objectives are. The landowner in turn needs to understand the department's habitat goals for the property and what agricultural or timbering practices are compatible with those goals.

"So, in the process of negotiation, a lot of education goes on," says Knapp.

The terms of most conservation easements establish rights for both the landowner and FWP. Despite some restrictions—such as subdividing, damaging critical habitat, and leasing land for hunting—the agreements still allow landowners to use their property commercially. Logging, grazing, and farming can continue, though they must benefit wildlife habitat. When ranchers hold grazing permits on public lands, FWP works with the various federal and state agencies so that the grazing can continue as part of the easement.

JOHN R. FORD

GREAT GRASS Rotational grazing required under conservation easements creates grassland conditions beneficial to elk, deer, and ground-nesting birds such as sharptails.

The department also teams up with private conservation organizations, such as The Nature Conservancy and the Montana Land Reliance, that hold their own conservation easements. The organizations try to link easements to prevent habitat fragmentation and consolidate larger areas of land.

"We try to look at a broader landscape picture rather than just this or that single parcel of land," says Alan Wood, FWP wildlife mitigation coordinator at Kalispell.

That landscape is expanding as the department buys easements in key areas throughout Montana. Two years after it secured conservation rights on the Brewer Ranch, FWP bought easements on the O'Connell and Sieben ranches north of Helena, protecting almost 20,000 acres of a historic wildlife corridor. Linked to nearby wildlife management areas, wilderness areas, and other private easements, these conservation easements preserve contiguous wildlife habitats stretching from the Gates of the Mountains Wilderness north into the Canadian Rockies.

Most recently, FWP has been negotiating an easement with the Plum Creek Timber Company near Libby. When completed, the Thompson-Fisher easement will secure 142,000 acres and prevent new development while maintaining Plum Creek land in commercial forest production.

"The arrangement keeps land in the working land base, supports the local economy, and maintains the mix of private lands, ranches, farms, forests, and all the wildlife those lands support," says Wood. "In putting it together, we've tried to understand and sympathize with local concerns and come up with a solution that works for the people of Lincoln County and FWP."

LUKE DURAN

SUBDIVISION SQUEEZE A major impetus for conservation easements is the increasing conversion of ranchland and wildlife habitat into housing.

> "The public needs to know they are not losing local tax revenue when land is put in a conservation easement." —Lisa Bay, *Rancher*

BUY OR LEASE?

Though the major thrust for protecting wildlife habitat over the past ten years has been conservation easements, FWP still has the authority to purchase wildlife habitat and create new wildlife management areas. And there are still some strong arguments for that option.

"For our field staff," says Childress, "the quickest and easiest arrangement is having fee title to the land, because then they don't have to negotiate management methods and goals with anybody."

And John Gibson, president of the Montana Wildlife Federation, maintains that vital habitats need more protection than easements can provide.

"I'm convinced that key winter game ranges, as well as critical migration corridors, should be in public ownership," he says.

Yet even FWP biologists concede that much habitat can be protected while it remains in private hands. Historically, many Montana farms and ranches have greatly benefited wildlife. Perhaps the most persuasive argument in favor of easements, especially in light of ever-increasing real estate costs, is that they can protect approximately twice as much wildlife habitat as can be secured with fee title purchases.

"If we'd tried to buy all the land we now have in conservation easements," says Childress, "we'd have protected 150,000 acres of habitat, not 300,000 acres."

Another benefit of conservation easements, say FWP officials: lower maintenance costs.

"When we buy land," says FWP chief of staff Chris Smith, "we can incur costs for fencing, weed control, road maintenance, and things like that. With easements, our maintenance consists only of visiting the landowner to see if the terms of the easement are being followed."

That's not to say easements are worry-free. Knapp notes that the agency will need to work harder to inform new owners who take over established easements about their legal responsibilities. He also says FWP staff will need to devote more time and effort to monitor soils and vegetation to see if habitat is being enhanced, one of the program's goals. And reviewing easements each year and enforcing conservation provisions becomes a larger concern as more are added.

Another challenge to the program is dispelling the ongoing myth that conservation easements take land off the tax rolls.

"I still hear that all the time," says Lisa Bay. "But the fact is, the conservation easement does not affect our property taxes in the least. The public needs to know they are not losing local tax revenue when land is put in a conservation easement."

The biggest challenge facing the program, according to FWP director Jeff Hagener, is ongoing resistance to the department securing additional conservation easements.

"I hear a lot about the 'in perpetuity' aspect," he says. "Some folks don't like that an easement lasts forever, even though it's an agreement with a willing landowner."

Yet Hagener maintains that landowners who want to should be able to make sure their land isn't subdivided in the future.

"It's your property, and if you want to protect it, you should have that right," he says.

With authorizing legislation for Habitat Montana sunsetting in 2006, Smith says the department is looking closely at its conservation easements to see if they are working as intended.

"Part of the challenge we face as an agency between now and the 2005 legislative session is effectively evaluating the program and making sure that we're using the funding wisely and accomplishing the goals we set out to achieve," he says.

Ask Mike Bay, and you'll get an endorsement of the conservation easement program. "I've developed a real partnership with FWP, particularly with Quentin Kujala, the local wildlife biologist," he says. "And I've found that the grazing system is really better for the grass. I've got more forage because of it."

It's not often that something is good for wildlife, hunters, wildlife watchers, ranchers, and cows. Conservation easement supporters are hoping that in 2005, when citizens and legislators begin discussing the merits of the program, such broad benefits will make it worth continuing.

"A lot of people misunderstand conservation easements, and I was one of them," says Dan Walker, current chairman of the FWP Commission. "But I've come to understand that they help people preserve their ranches and wildlife habitat as well."

JON EBELT

FAMILY FRIENDLY Not only does his conservation easement help wildlife and cattle, says Mike Bay, but it allowed him to buy part of a ranch that had been in his family for four generations.

Montana's Waterfowl Stamp CANCELLED

BY TOM DICKSON

Maybe it's the fault of electronic technology, or just the inevitable passing of another conservation tradition. Wharever the reason, Montana migrarory bird hunters will be licking their last state waterfowl stamp this fall. The 2003 legislature authorized FWP to discontinue the stamp, which is no longer necessary to hunt waterfowl and other migratory birds under the department's new automated licensing system.

"I'm sad to see it go," says Fay Moore, an administrative assistant in FWP's Wildlife Division, who has been handling Montana waterfowl stamp art entries for 17 years. "But at the same time, I understand that financially it really doesn't make sense anymore to print and distribute an actual stamp."

Montana's waterfowl stamp, modeled after the federal version and those required in most states to hunt ducks and geese, was established in 1986. The $5 stamp acted as a waterfowl hunting license and was required to be attached, along wirh the federal waterfowl stamp, to a hunter's state conservation license before pursuing mallards, Canadas, and other ducks, geese, and swans. It was later amended to include other migratory birds such as sandhill cranes, mourning doves, and common snipe.

According to Jeff Herbert, assistant administrator for FWP's Wildlife Division and for years the department's migratory game bird biologist, the emergence of automated licensing has rendered the actual stamp unnecessary. "Before, the stamp itself was the waterfowl hunting license," he says. "But now, with our new licensing system, you get a line saying 'waterfowl license' printed right on the receipt, so the stamp itself isn't needed."

Though stamps may no longer have a practical purpose, that doesn't mean hunters and collectors don't still have a soft spot for the miniature wildlife images.

"I've got an album with my signed duck stamps going back to when I was 12 years old," says Tom Hinz, FWP Montana Wetlands Legacy Program coordinator. "I guess like so many other things, stamps are just becoming obsolete."

The stamp has seen declining interest among collectors and waterfowl artists. In its heyday during the late 1980s, the yearly stamp contest attracted up to 40 entries, says Moore.

"This year it was just three," she says. "And we were really sweating out whether we'd get any."

Because of the state's small stamp market, wildlife artists have little incentive to enter the contest. Only a few hundred prints of the winning image will sell in the saturated wildlife print marker.

LICKED Jim Borgreen's mallard pair, on the 2003 Montana migratory bird stamp, marks the end of an era. After this year, Montana is stamping out the actual duck stamp.

"A lot of hunters have five, six, or more wildlife prints in their house," says Herbert. "There gers to be a point where you don't have room for more."

Even if collectors aren't keen on the Montana stamp, couldn't the state continue the effort just for old-time's sake?

"Too expensive," explains Herbert. "In time and money, we figure ir costs us roughly $10,000 to run the contest and have the stamps printed and distributed. That's $10,000 we could spend enhancing and restoring wetlands."

Though he has ro be hard-headed about the economics of the issue, Herbert says he still laments the decision: "For us avid waterfowl hunters who have been involved with the program from the beginning, ir's a tough pill to swallow."

Although the piece of gummed paper will no longer be issued, the $5 fee ($50 for nonresidents) will still be required of all migratory bird hunters.

And, as it has since 1986, that money will continue to be used to preserve, conserve, and improve wetlands. Approximately $2 million has been generated by the migratory bird stamp surcharge since its inception, and FWP officials hope it continues to generate roughly $250,000 per year in the future.

Jim Hansen, FWP Central Flyway coordinator, says wildlife biologists use duck stamp funds to restore drained wetlands, repair small reservoirs, plant nesting cover, and construct new wetlands. Over the past decade and a half, FWP has helped more than 200 wetlands with duck stamp dollars.

"Some of the most satisfying projects have been along the Hi-Line," Hansen says. "We've worked with dozens of ranchers who have good nesting cover on their land but just needed some water."

Many of those projects required little more than plugging a ditch thar had drained a wetland, or building a small dam across a drainage to create a new wetland. "It's also a good way to provide water for cattle," says Hansen. "So it helps the rancher as well as wildlife."

Jim Borgreen, whose depiction of two mallards for the 2003 contest will be Montana's last stamp, says he's saddened by the program's demise but glad to have had a chance to see his image put on a stamp not once but three times.

"For me, it's been a way ro give back ro the resource," says the Lewistown High School art department chief, who also won the 1996 and 2002 stamp contests. "I've been duck hunting since I was a kid growing up in Great Falls, and it's been nice to know that my artwork has been helping waterfowl."

Still flowing after all these years

2003 marks anniversaries of landmark Montana stream protection events

by Tom Dickson

Montana boasts some of the wildest and most widely admired rivers in the United States. Those who fought to protect them say it's important that people know why the state's streams remain in such pristine condition.

"It's no accident," says Jim Posewitz, a leader in Montana's stream protection movement in the 1970s. "An enormous amount of energy went into preserving the Yellowstone and other rivers. People promote Montana's splendor, but they also need to recognize that this splendor exists mainly because a generation ago people were committed to a cause and effectively executed an effort to protect it."

This year, Posewitz and others who fought for stream protection in the 1960s and '70s are celebrating anniversaries of a law and a state ruling instrumental in preserving Montana's flowing waters.

Forty years ago, in 1963, the Montana legislature passed the Stream Protection Act. The monumental bill—perhaps the first such legislation ever passed in the United States—marked a shift in Montana's public attitudes about highway and other public construction projects. Previously, roads had been engineered as efficiently as possible, with little regard for the rivers they paralleled. Natural river bends and undulations were often converted into ruler-straight channels. The new law changed that by establishing Montana FWP as the permitting agency for state and county construction projects along streams and rivers.

"It was huge, just huge," says Posewitz, who was a state fisheries biologist in Glasgow at the time. "Before this act, state departments and counties could pretty much just do what they wanted to rivers. Afterwards, they had to submit their plans to us, and we had authority to deny the projects if they damaged rivers."

The legislation came during the heyday

YELLOWSTONE RIVER BY CAROL POLICH

of interstate highway construction, says Posewitz, who today runs Orion: The Hunters Institute and the Cinnabar Foundation. In the name of cost-effectiveness, engineers would straighten rivers rather than build bridges over the curves. The ditchlike "improvements" lacked riffles, pools, and snags needed by fish and other river creatures for rearing, feeding, and hiding from predators.

Lawmakers learned about this damage from state fisheries biologists. The scientists had conducted studies documenting how highway construction and channelization harmed river fish populations. Just as important, says Posewitz, was strong support for the legislation from the Billings Jaycees. The civic group, which had many influential business leaders as members, came out strongly in favor of protecting the state's rivers.

The 1963 legislation was written to last only two years, but it was made permanent during the next legislative session.

"As far as I know, this was the first bill of its kind passed in the nation," says Posewitz.

Another major river protection event occurred 25 years ago. In 1978, the Board of Natural Resources and Conservation (seven citizens appointed by the governor) ruled that 5.5 million acre-feet of instream flows of the Yellowstone River should be perpetually reserved in the river for the good of fish and wildlife.

Crucial to the Yellowstone ruling was a law passed five years earlier, the Montana Water Use Act, that specified fish and wildlife as a beneficial use of water. The law authorized the appropriation of water for what are called *reservations*—guaranteed amounts of water for cities and irrigation and the perpetual maintenance of specified river flows for fish and wildlife.

That law gave conservationists a strong weapon to help defend the Yellowstone River, which had been under attack on several fronts. The Middle East oil embargo had created a huge demand for increased domestic energy sources, particularly coal. Southeastern Montana was rich in the fuel source, and soon speculators, railroads, politicians, state and federal officials, and coal mining companies descended on the region to decide its future. One Bureau of Reclamation study examined how water from the Yellowstone could be used to cool 21 proposed coal-fired plants. Another idea was to mix water from the Yellowstone with crushed coal and then pipe the slurry to eastern markets, where it could be dried and used to fuel power plants.

The other main proposal threatening the Yellowstone, one that had been pushed for years, was to dam the river south of Livingston to produce hydropower.

The dam, along with proposed water withdrawals for the coal mining boom, threatened to lower the river to levels where fish and wildlife habitat would dry up. Even for citizens worried about energy self-sufficiency, the proposals seemed outrageous.

"The public outcry was enormous," says Posewitz.

Responding to that sentiment, the 1973 Montana legislature passed the Montana Water Use Act. The law authorized state agencies to apply to the Board of Natural Resources and Conservation, which sets DNRC policy, for reserving waters for either instream or future uses. The following year, lawmakers placed a three-year moratorium on major water allocations from the Yellowstone.

"That was critical," says Posewitz. "The moratorium gave us some breathing room to gather data and mount a campaign to save the river."

Over the next three years, FWP biologists began studies on the river and its aquatic life, from paddlefish and mayflies to muskrats and waterfowl. Armed with the facts from these studies, department officials approached the board to request a reservation of flow for the Yellowstone and dozens of ttibutaries in its watershed.

The proposal was hotly contested, Posewitz recalls. Some lawmakers introduced bills that would deny FWP river water reservations or give other users higher preference for the Yellowstone's water. The main arguments against the department's proposal was the harm it would cause industry and irrigators.

Yet many legislators strongly supported protecting the river flows for fish and wildlife. So did representatives of the Montana Wildlife Federation, Environmental Information Center, Federation of Fly Fishermen, and Trout Unlimited, who were called upon to testify.

"We also had the support of irrigators downstream from the proposed diversions," Posewitz says.

Though heavily pressured by industry lobbyists and attorneys to do otherwise, says Posewitz, the board decided to grant water reservations of 5.5 million acre-feet on the Yellowstone and 61 tributaries for the benefit of fish, wildlife, and recreation. It was an instream water right that new water users would have to honor.

Chris Hunter, head of FWP's Fisheries Division, says the ruling was monumental because it put the 1973 law into practice.

"The Montana Water Use Act was the mechanism, but the Yellowstone reservations decision was really the first time the law was put to use," he says. "After that, it became more acceptable for the department to get water retained in streams and rivers for the good of fish and wildlife."

STATE PARKS 2003 EVENTS CALENDAR

SEPTEMBER

4, 9, 10, 11 Thursday Night Theories and Uncover History, *Travelers' Rest State Park, all evening.* Lectures on the Lewis and Clark Expedition, wildlife, archeology, and more. (406) 273-4253.

22–26 Native American Cultural Fair, *Ulm Pishkun State Park, all day.* Presentations on Native American culture, history, and traditional games. Free buffalo burgers. (406) 866-2217.

26–28 Atlatl Competition, *Ulm Pishkun State Park, all day.* Try out this 8,000-year-old spear-throwing device. (406) 866-2217.

OCTOBER

24, 25 Bannack Ghost Walks, *Bannack State Park, 7–9 p.m.* The ghosts of Bannack's wild past come alive during this bone-chilling evening. Reservations required. (406) 834-3413.

NOVEMBER

15 Photo Party 3, *Chief Plenty Coups State Park, 1–4 p.m.* Ice-cream social, storytelling, and viewing museum historical photos. (406) 252-1289

DECEMBER

5 Christmas With Jack, *Ulm Pishkun State Park, all day.* Concert with Jack Gladstone, renowned Blackfeet singer and songwriter. (406) 866-2217.

20, 21, 27, 28 Candlelight Tours, *Lewis and Clark Caverns State Park, all day.* Special holiday tours allow you to see the cave as early visitors did. Reservations required. (406) 287-3541.

26 Ice Skating on Bannack Pond, *Bannack State Park, all day.* Weather permitting, ice skating begins on December 26 and continues until about March 1. Free ice skate rental and hot cocoa. (406) 834-3413.

CRAIG & LIZ LARCOM

SEPTEMBER 22–26

Native American Cultural Fair

Ulm Pishkun State Park, all day.

The park teams up with the Montana Tribal Tourism Alliance to celebrate traditional Indian culture. Demonstrations and presentations throughout the week on Native American customs, history, and traditional games. Free buffalo burgers will be served.

For a complete listing of parks events, visit fwp.state.mt.us/parks/calpark.asp or call (406) 444-3750.

Montana Fish, Wildlife & Parks

Student artwork captures park beauty and family appeal

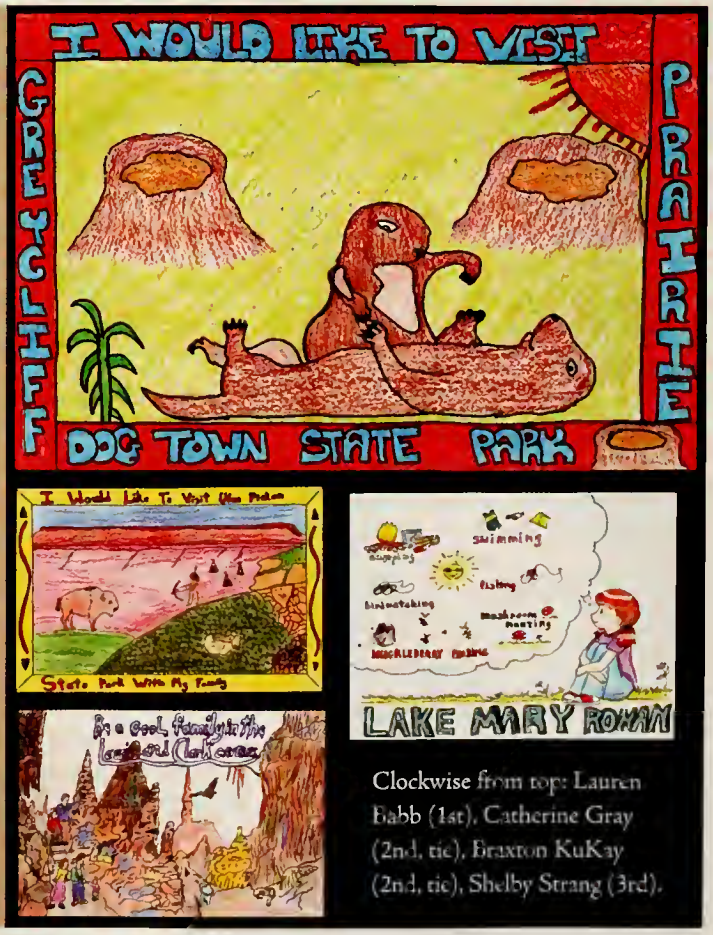
Lauren Babb's painting of Graycliff Prairie Dog Town State Park won first place honors in the 12th annual Montana FWP state parks poster design contest.

This year's theme was "The State Park I Would Most Like to Visit With My Family." Students were asked to combine artwork and imagination to represent a park where their family could spend an enjoyable day. To prepare for the contest, students could take a virtual tour of Montana's 42 state parks available on the FWP website (fwp.state.mt.us).

Babb, who attends Lewis & Clark School in Great Falls, received a $150 savings bond and a t-shirt depicting her colorful artwork.

Second place was a tie between Catherine Gray of Sacred Heart Homeschool and Braxton KuKay from Lewis & Clark School in Great Falls. Both received a $100 savings bond and a t-shirt. Gray drew Lake Mary Ronan State Park as a daydream of fun activities. KuKay depicted his family enjoying the underground scenery at Lewis and Clark Caverns State Park.

Shelby Strang took third place with his painting of a buffalo, prairie, and tepees at Ulm Pishkun State Park. The Lewis & Clark School fifth-grader won a $50 savings bond and a t-shirt.



Clockwise from top: Lauren Babb (1st), Catherine Gray (2nd, tie), Braxton KuKay (2nd, tie), Shelby Strang (3rd).

American Dipper
(Cinclus mexicanus)

Recently, while fishing, I actually forgot to fish. I had become mesmerized by the antics of a small, slate gray bird. With wild abandon, it would leap into the frosty, rushing current of Rock Creek, submerge for longer than seemed possible, then suddenly pop up, fly onto a boulder, and gobble an aquatic insect it had grabbed underwater. Then the bird would tip its head back and sing a wonderful song, all the while bopping up and down. While this curious creature appeared to be doing a rendition of Elvis in a wet suit, it was only doing the dance for which it was named. I was watching an American dipper.

APPEARANCE

Also known as the water ouzel, the dipper is a chunky, gray-colored, dark-billed bird, 7 to 8 inches long. It has long legs, a stubby tail, and short powerful wings. White eyelids flash when the bird blinks, up to 50 times a minute. The male and female look alike, but the juvenile may be a little lighter in color.

The wren-shaped dipper gets its name from its strange movements. The bird jauntily bounces its body up and down, sometimes also twitching its wings. Theories vary as to why dippers dip. Some experts say the movement helps the birds communicate with their mates; others say it scares off potential predators. Maybe it's simply a dance of exuberance, born of the joy of living along a sparkling mountain stream.

SONG

Both dipper sexes sing year-round. The song is usually a long series of delightful trills and warbles, loud enough to be heard above the tumble and splash of a mountain stream. The birds sing to stake out their territories and to attract a mate.

FOOD

Dippers forage for aquatic insects and their larvae, small fish, and fish eggs. They wade in shallow water, using their strong toes to grasp rocks in the streambed. If the water is too deep for wading, the dipper swims, using its feet to paddle and its strong little wings to help propel it against swift currents. During insect hatches, the dipper will take to flight and skim just above the water, snatching floating morsels.

ADAPTATIONS

Dippers have the greatest oxygen capacity of any songbird. Nasal flaps keep water out of their nostrils, helping them remain underwater for up to 30 seconds. A thick coat of down beneath a heavy layer of waterproof contour feathers provides insulation from even the coldest waters. A dipper preens extensively, spreading body oils that maintain the waterproofing and smoothing ruffled feathers to protect the down beneath and maintain its insulating qualities.

BY GARY BEELER
Gary Beeler is a freelance writer from Boyd.

DONALDMJONES.COM

REPRODUCTION

Dippers use fast-flowing water to protect their nests, which they build in the most unlikely places—below bridges, into steep creek banks, and even behind waterfalls. The nests, which have an opening on the side, are constructed of grass and leaves and are covered with a layer of moss.

The female builds the nest, but the male might help. The same nest may be used for years as the male and female rejoin there each spring.

Dippers lay two to five white eggs, which take roughly 16 days to incubate. While the babies stay in the nest, about 24 days, the male helps the female with feeding duties. When the babies leave the nest, they are able to swim and dive. Two broods a year are common.

HABITAT AND MIGRATION

American dippers breed in western mountains near streams that have clean, flowing water. Except during the breeding season, the birds are solitary. Migration is often limited to within a single water drainage, only as far as the birds need to go to find ice-free water.

STATUS IN MONTANA

The U.S. Geological Survey Breeding Bird Survey showed that the state's dipper population from 1980 to 2002 was stable. But Jeff Marks, director of bird conservation for Montana Audubon, notes that the 2000 Montana Bird Conservation Plan lists the dipper in the priority level 3 category, which means that the species is not at risk statewide but may be declining in number in some local areas. Threats to dippers include heavy siltation in streams, water pollution, and high temperatures.

VIEWING

The dark wet boulders along fast-flowing streams provide perfect camouflage for the dipper. Be parient; the birds are there. When you cross a bridge, or reach a waterfall, stop and scan the stream for movement. Look for the little Elvis in a gray wet suit.

LEANING LIGHTLY

Other than archers, photographers, and flytiers, who ever stops to look at a feather? Yet this wisp of keratin, the same material that comprises hair, claws, and horns, is among nature's most marvelously designed components. Not only do feathers protect birds from the elements, they actually make flight possible.

Different feathers serve different purposes. Tail, breast, rump, and back feathers all differ in shape, size, and function, as do the primaries, secondaries, and tertials of the wing.

The bare, stiff end of a flight feather, called the *calamus* or quill, attaches to the skin. The *rachis*, or shaft, supports the feather's two sides, called vanes. Each vane is composed of strandlike barbs extending parallel to each other from the shaft. The barbs interlock with miniscule hooklike structures. When barbs separate, birds smooth them back together with their beak, like zipping a zipper.

To see feathers attached to their most popular autumn carriers, turn to page 24.

Photo by Donald M. Jones

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